

FIGURE 1A

FIGURE 1B

BEST AVAILABLE COPIE

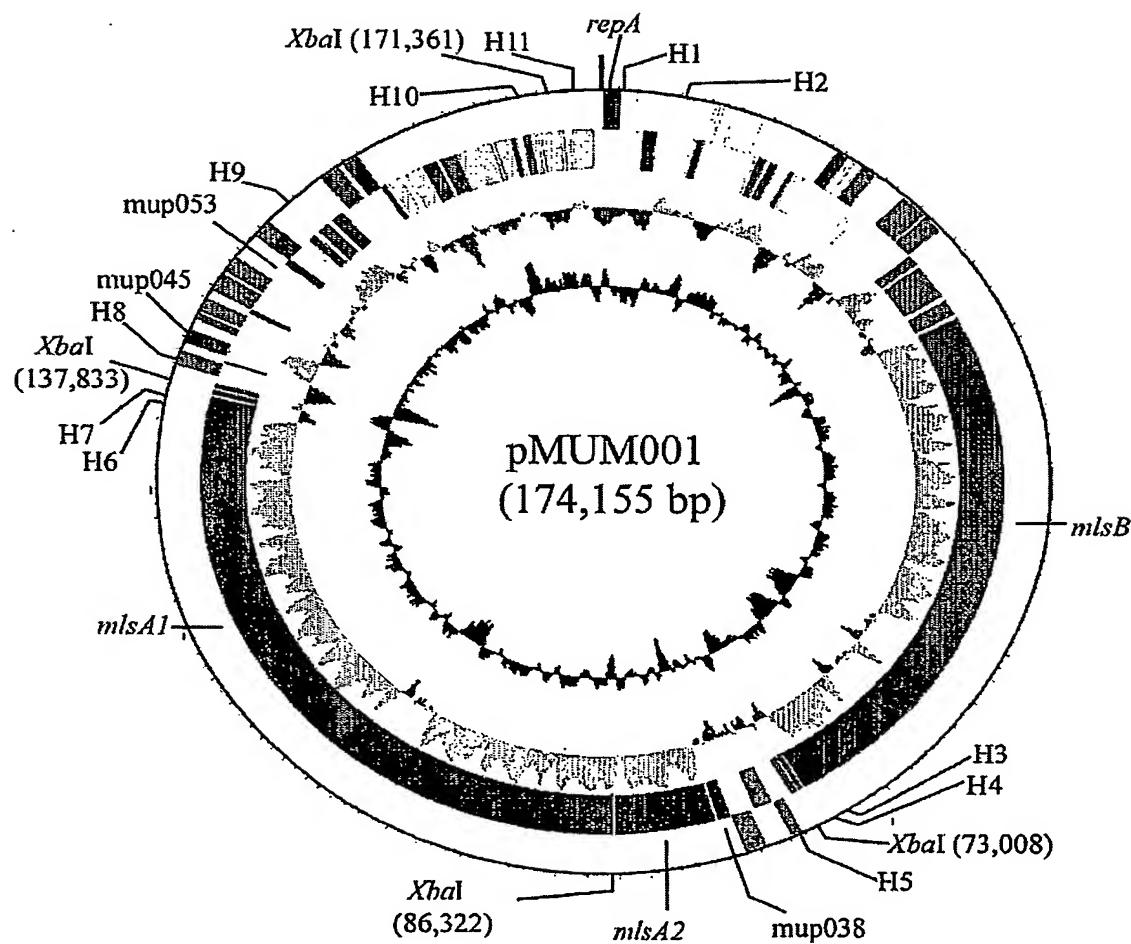


FIGURE 2

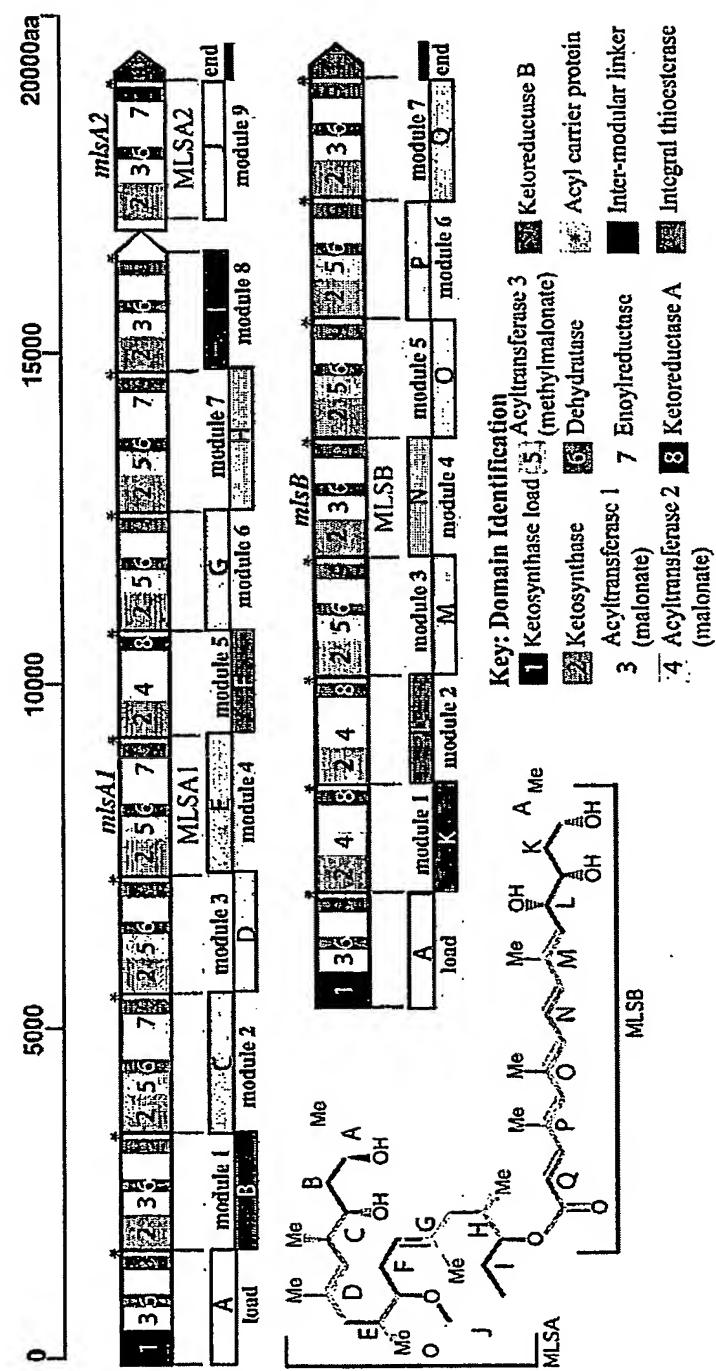


FIGURE 3

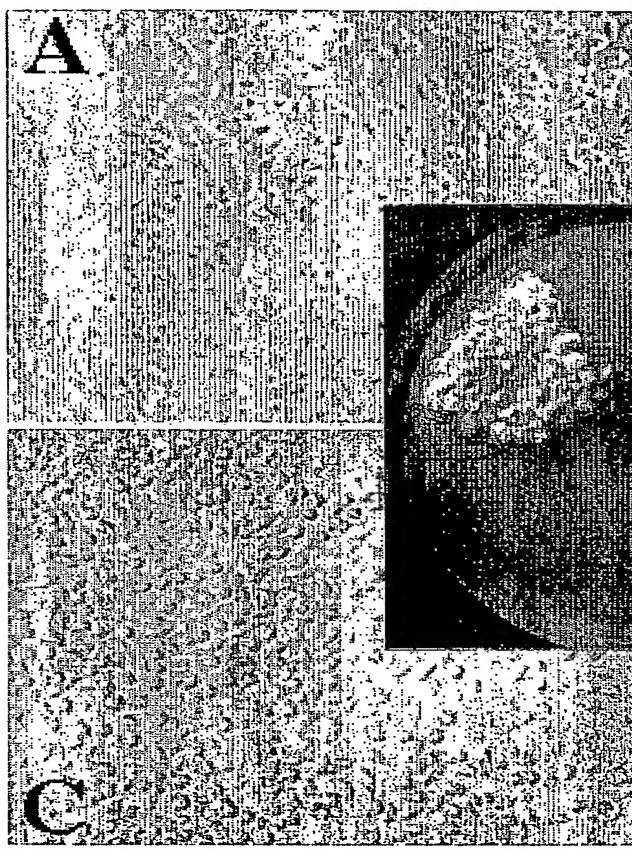
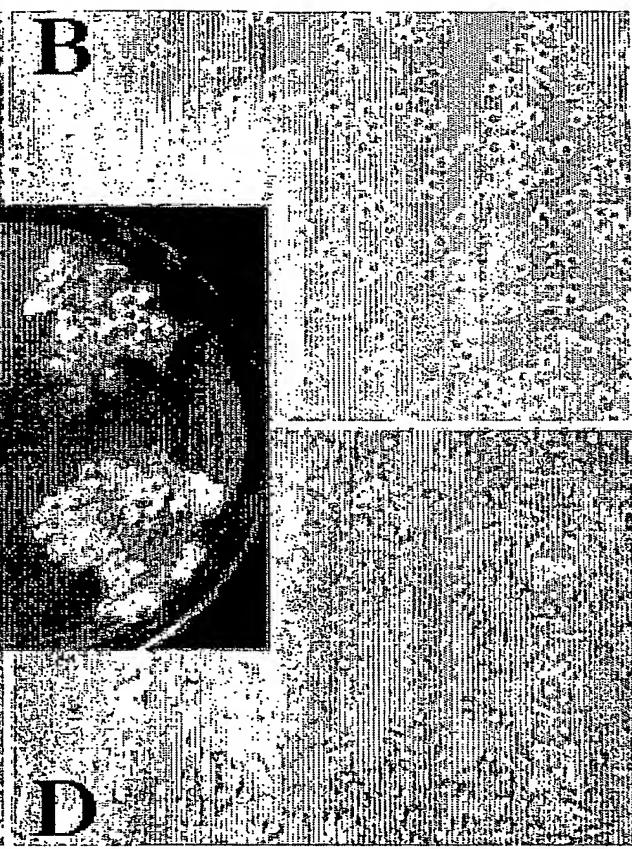
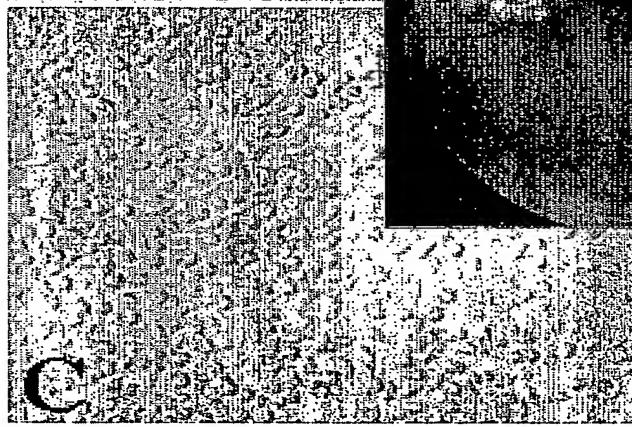
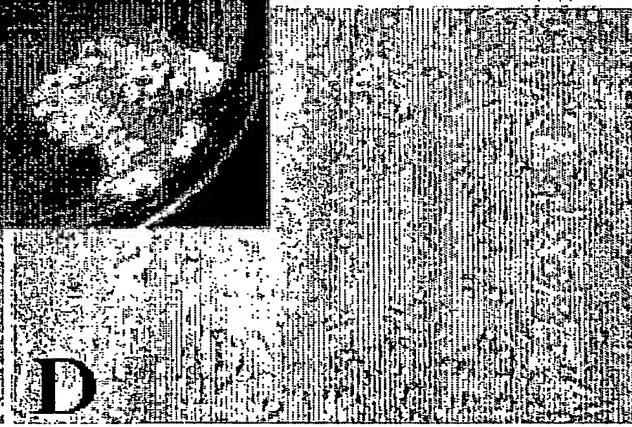
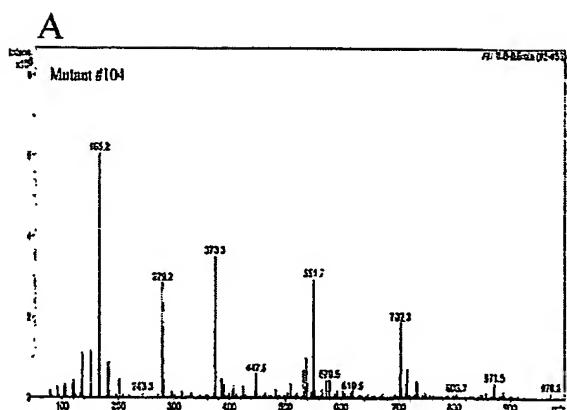
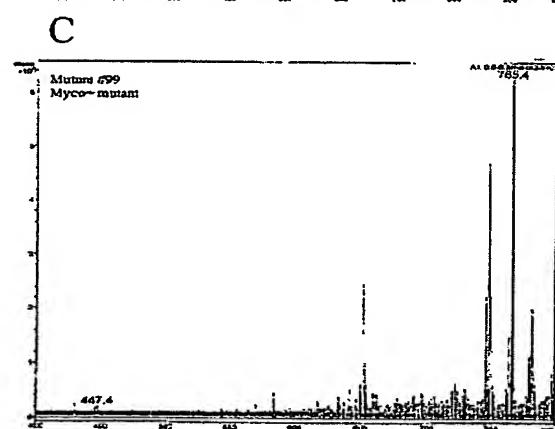
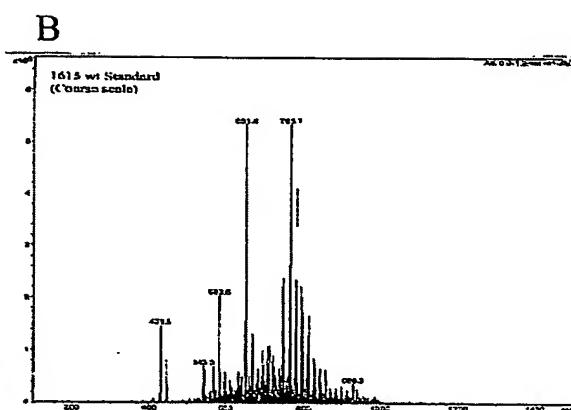
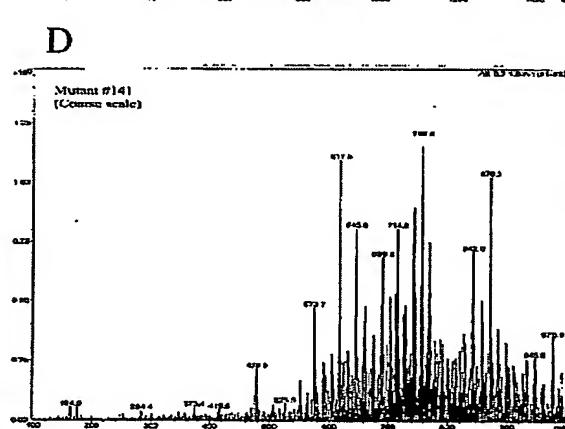
FIGURE 4A**FIGURE 4B****FIGURE 4C****FIGURE 4D**

FIGURE 5A**FIGURE 5B****FIGURE 5C****FIGURE 5D**

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 19801 cggccgtatg ctgtcgccgtt cgctgcagca ctcggccagc tgcactgc

FIGURE 6(continued)

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FIGURE 6(continued)

14/112

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 25 251 cagcccatcc tggaaatgtt tttactgcca ggccccccttccacactgc
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FIGURE 6(continued)

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FIGURE 6(continued)

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 37851 agatcctgag ggcacgggtg tgatcaccgg gggaccggg acgctgggt
 37901 cttgttcgc cgagcatctg gttctgccc atgggttccg gcatctgtt
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 38051 gcaaccggcga agcaactggc gcccgttca attcactgccc cacaca
 38101 ctttt aaccg cggtagtgc caccggcggtt gtttggccg acacccgg
 38151 caccgagttg accggcgatc aactcgacca ggtgctggcc cccaaatcg
 38201 acgcggcatg gcaactgcac caactcacct acgaacacaa cctgtctc
 38251 ttcatcatgt tctcgtccat ggccgaaatg ataggcagtc cggc
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 38351 accgcctggg cttggccggc accagccctgg cttggggcta ctggc
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 38451 cccctgggt ttatggccca tcggcaccag ccacggactg gcccgtt
 38501 atgcgcgcct cggccaccggc cagccgttt cgataaccgc cccgat
 38551 acccaacccc tggccgaca cgcggcgac aacaccctgg cccgatc
 38601 gtctgcgtg atcaccacac caccggcggtt ggcggctct ggc
 38651 atctcgctgc cccctcaac ggacttagcc cccaaacagca aca
 38701 ctggccaccc tcgtggccgc ggcacccgc accgtgttgg gccacc
 38751 cccggaaaggc atcagccctgg ccaccgcgtt caaagaccc ggaat
 38801 cgctgaccgc ctttgaactg cgcacccatc tcaccacaa caccgg
 38851 gatctgcccc ccaccctcat cttcgatcac cccacacccc atgc
 38901 cgagcatctg cttgaacaga tccctggcat cgggtccctg gtgg
 38951 cgggtgtat cgcacgttggt cgtaccggagg agccgggtggc ggt
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 39051 ctgggtgatc gctggccgtg atgtgggtgg taatttccg ggc
 39101 gttggatgt ggagggactg tttgatcccg atccggacgc ggt
 39151 acctacaccc gttacggcgc gttccttgc gatgcggcag gttt
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 39351 gcccagtcc tacggcgcca ccaactccga tgacgtcgag
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 39451 ggcctagaag gtccagcgat caccgttgc accgcctgtc
 39501 ggtggcaatt cacctggctt gccaatccctt acgcaaca
 39551 tagcactggc cggcggcgatc accgtatgc gacacccatc

FIGURE 6(continued)

39601 gagttctccc gccaacgcgg cctggcccca gatggacgct gcaaagcctt
 39651 cggccgttacc gccgatggca cggctttgg tgaaggcgcc gcggtcttg
 39701 tccttgaacg gtcctccgag gcccgcgc acaaccaccc ggtccttgc
 39751 atcgtcgctg gatcgccgat caaccaagac ggccatcca acggactgac
 39801 cgcacccac ggcccgtcac aacaacgcgt catcaaccaa gcaactagcca
 39851 acgcccgcct caccacacgac cagtcgacg ccgtcaagc ccacggcacc
 39901 ggcaccacac tgggtgaccc catgaaagcc agcgcctac acgcccaccta
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 40451 ctaccacacg cagccacccac cccacccgcg ccaccatcac caccagcatt
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 40851 cgcactctgg cggtggggcg gaatcaccac cgcgcgcgc atcgccact
 40901 cccagggcga gatcgccgc gcacatgtgg cggagccct gacccgtt
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 41051 agctgctggc acggtgggac ggcagatca ctgcgcgcgc agttacggc
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FIGURE 6(continued)

22/112

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FIGURE 6(continued)

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 50751 atcatatatc ttcagaattt cgggagaaga tcgagctcac gtaatcgcta
 50801 atcggttacg gtcatttctc tggaaatggg atggcaccgg tagtccagaa
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 50901 cctagcaaac atgtttcgca ctccaaaccag cggaaatttca cctactctag
 50951 aaggccggccg tgggtcaac tga

FIGURE 6(continued)

MlsA2 gene

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 251 ccgatccgga cgcggcggc aaaacctaca cccgttacgg cgcgttcctt
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 351 ggcacgcgcg atggacccccc agcagcggct gctgctggag gtgtgtggg
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 451 accgggtat tcgtcgagc ctggggccag tcctacggcg ccaccaactc
 501 cgatggcgct gagggggtatg cgatgaccgg cggctcgact aegtcatgt
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 651 cttacgcaac aacgaatccc agctagact ggccggccgc gtcaccgtga
 701 tgagcacacc tgccgggtttt accgaggttt cccgccaacg cggcctggcc
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 2601 gttgacacaa gogatcaccc acaccgtcga acaagccggc ggcggccgg
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25/112

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 2801 atcagcgta ctggctgctg cccaccgctg gtgatttcag cggggccaat
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 4551 cggagaagcc gcccgggttca tcagcgagat cgggtcccgac gtctacggat
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 5001 cgtattgttac tgcctcgatgtt gtgttgcgtt cgaagcatcc ctagccctgc
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 5101 accgagggtca tcgcccgttcc cccatccggc gtcatttacc gcccgttcc
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 5451 cggacactcg gcccacccggc ccaccgttcc gcaacccgttcc acggccgttcc
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FIGURE 7(continued)

26/112

5551 ctggccgccc tggtaattc agtccccaca caacaccgtt taaccgcgg
5601 agtgcacacc gcccggat tggccgacac cccggtcacc gagttgaccg
5651 gcgatcaact cgaccagggt ctggccccc aaatcgacgc ggcattggcag
5701 ctgcaccaac tcacctacga acacaacctg tctgcattca tcatgttctc
5751 gtccatggcc ggaatgata gcaatcccgg tcaggtaac tacgcggcag
5801 ccaacaccgc gttatgtct ctcggcact accggccaccg cctgggcttg
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6001 accggacagc ccgtttcgat acccgccccc atcaacaccc acaccctggc
6051 cgcacacgc cgcgacaaca ccctgaccc gatcctgtct gcgcgtatca
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6201 ggccgcggcc accggccaccg tgctggcca ccacacccca gaaagcatca
6251 gcccagccac cgcgttcaaa gacctcgaa tcgattcgct gaccggccctt
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7051 atgacactgc actcgacac gaaaattgac cgtgccccaa caccatgaa
7101 cttattacaa gatgaggcag cggtgaccgc cctcaaaaata gggaaactgg
7151 tgaacgcac agggagatgc gcaatgcac tgagagatgg acccgatattc
7201 ttggcaggg cccgctctgt caacatgagg tga

FIGURE 7(continued)

MlsB gene

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 51 ttagtgcagtc gcagtggtcg gaatgtcttgc cgggttccct ggccatctg
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 151 gagataccctt ctgcacgttgc gaatttagac ggcctcggtt ctcaccgact
 201 gaccgatgag caacgatcag cgcttcggca tggcgccttt cttgatgacg
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FIGURE 8(continued)

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FIGURE 8(continued)

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FIGURE 8(continued)

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 19851 ccccgaaagc atcagcccgcc accaccgcgtt caaagacctc ggaatcgatt

19901 cgctgaccgc ccttgaactg cgcaacaccc tcacccacaa caccggcctg
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 20901 cgcacccacac ggcccgttac aacaacgcgt catcaaccaa gcactagcca
 20951 acgcccggctt caccacacac caggtcgacg cgtcgaagc ccacggcacc
 21001 ggcaccacac tgggtgaccc catcgaagcc agcgcctac acggccaccta
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 23001 ctcggtaac gaactgatcg tgcacacccc cctgctgtc gctggccacg
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 23901 cgaaggcagac gtgggtgtgt ggccggtaacc ggtggccagc aacgaagagc
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 25201 gcccggccatcg tggccggccgc caccggccacc gtgtccggcc accacacc
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 25351 ctggcccccac ccctcatttt cgatcaccggc acaccatcg ggtggccga
 25401 gcatctgtttt gaaacgatcc ctggcatcg tggccctgggt cccggctccgg
 25451 tggtgatcgc agctggcgtt accggaggac cgggtggccgt ggtggggatg
 25501 gctgtgttta tcccccgggtgg tgcgtgtatca gccggatcagt tggggactt

FIGURE 8(continued)

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 25651 tacaccgtt acggcgcgtt cttgacgat gcggcagggtt ttatgccgg
 25701 gttcttggg atctctccac gggaggcacg cgcatggac cccagcagc
 25751 ggctgtgtc ggagggtgtc tggaaagcgc tagaaaccgc ggttattccc
 25801 ggcacacact tggccggcac ctccaccggg gtattcgcg gacccctggc
 25851 ccagtcctac ggcgccacca actccgatga cgctgagggg tatgcgtatga
 25901 cccggccgcg gactagcgtc atgtccggcc gtatcgctt caccttggc
 25951 ctagaaggc cagcgatcac cgttgcacacc gcctgctgtt catcgctgg
 26001 ggcaattcac ctggcctgcc aatccttacg caacaacgaa tccagctag
 26051 cactggccgg cggcgtcacc gtgatgagca cacctgcgtt ttcaccgag
 26101 ttctccggcc aacgcggcct ggcccccagat ggacgctgca aagccttcgc
 26151 cgctaccgcg gatggcaccg gcttggtga aggccgcgcg gtcttggtcc
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 28351 ggatttgcg agctagcgt gcatgtcgat gaccgtgccg gatattccctc

FIGURE 8(continued)

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 32351 cacgca gcca ccacccca cgcggccacca tcaccaccag cattgagcac
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 32551 taccggca tgggcccaga tcttaccgc a a t t c c c c g t t c g c c c a
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 32651 t g t c a g c t g t g t a c a c g a c g a c t g g t c g g t t g g a c g a g t c
 32701 gatgtgtcc a g c c t g t g t g t t c c c c g g a c a a g g c a g t c a a
 32751 ctggccgtgg g c c g g a a t c a c
 32801 g c g a g a t c g c c g g c a c a t g t g g c c g g a g g c a a g g c a a g g c a
 32851 g c t g c g g t a g t g g c t t g c g a c t g t g t g t g g a c c c a c t g c
 32901 c g g t g c c a t g g t c a g t g c t a t c g c c c g a a c c a c g t g c
 32951 t g g c a c g g t g g a c g g c a a g a t c a c t g t g c t a c c a c g t g c
 33001 a g c g c t g t g g t c a c c a c g a c a t c a c c a c a t c a c c a c a t
 33051 c t g c g a a c a c g a a a a c a t c g a c g t c a c c a c c a c c a c c
 33101 c t c a t c c c c c t a t a t g g a a c a c a t c c g c c a c c a c c a c
 33151 c c c g a g c t g a c a c c a c c a c c a c c a c c a c c a c c a c
 33201 c g g c g a a c c t a c c a c a c c g a c a c a c a c a c a c a c a c
 33251 a c t g g t a c c g a a c a c a t c c g t a a c a c t g t c c
 33301 g c c c t g c t g g g c g g g t g a g c a g t t t c
 33351 g g t g t g a c a c a g c a t c a c a c a c a c a c a c a c a c
 33401 g c g c a g c a g t g c a c a c a c a c a c a c a c a c a c a c
 33451 g c t g c a g c a c t c g g c a c g t g c a c t g c g t c
 33501 t g t t c t t a c t g c a g g c c c g c c c c t c a c c t c a c c
 33551 a g c a t c a g c g t a c t g g c t g c t g c a c c a c c a c
 33601 a a t a c c c a c g c a t g c a t c c g t a c t g c t g a t t
 33651 a a a c c c g g a t g g g t t c a c c a c c g a c c a c c a c
 33701 g g c t a a a c g a a c a c g c c g t c a a t c a g c a c c g
 33751 t t c g t c g a g c a c g t c g a t g c t g c a t g a c a a c a
 33801 c a a c g a a c t g a c a c a c c a c c a c a c a c a c a c
 33851 c g g a t c t a c a g t c a c c a c c g a c a c c g a c
 33901 c t t a a c a t c c a c t c g c g c c a c a t a t c g c
 33951 c g a t g a a c a a c c c g a t g g g t c c t g c a t g c
 34001 a a a c c a c c g a a c a c c a c c a c c a c c a c c a c
 34051 c c c g g c a c a g c a c a c a c a c a c a c a c a c a c

34101 acagggctac aactacggcc cgacattcca aggtgtgcaa cgatatggc
 34151 gtgaccacgc cacacccgat gtcatctacg ccgaaggta actacccgaa
 34201 gacaccgaca tcgacggcta cggcatccac cccgcctat tcgacgcccgc
 34251 tttacacccc ctactcgccc tgacccaacc ccccaacac gacaccgatg
 34301 acaccaacac cgcagacacc ggtgaccagg tgccgctgcc ctacgccttt
 34351 accggcatca gtttgcacgc caccacgccc acccgattac ggttacggct
 34401 gaccgttacc ggcgcccgt ccattaccgt gcacaccgt gacaccaccc
 34451 gagcccggt ggcgatcatc gactcattga tcacccccc ctcaccacc
 34501 gcoacagggt ctgctccggc aaccacagca gctggctac tacacctgag
 34551 ctggccacca caccctgaca ccacgaccga caccgacacc gacaccgatg
 34601 ccctgggtt tcaggttacc gccaaccctt ctaacaact gccccgtac
 34651 ctgcacgacc tacacaccag caccgaccgt cacaccagca ccaccgaagc
 34701 agacgtggtt gtgtggccgg taccggtgcc cagcaacgaa gagctccagg
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 34901 acgacccgggt ccccgaccta gcccacgccc cagtgtgggg cttgtatccgc
 34951 agcgcccaaa acgaacaccc cggacgcttc acactgtcg acaccgacga
 35001 caacaccaac agcgacaccc tcaccacccg cctaaccctt ccaaccgcg
 35051 aaaaccaact gcccatacgc cgcacacca tccacatccc cccctgacc
 35101 cgacacagca gtgacgggtc gtcactgtcg cccgtgggg tagatcttga
 35151 gggcacgggt ttgatcaccc gggggaccgg gacgctgggt gccttgg
 35201 cggagcatct gggttctgcc catggtgtcc ggcattgtt gttgacctcg
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 36401 tggaggggact gtttgcgttcc gatccggacg cggtcggcaa aacctacacc
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 36601 accttggccgc gcaacccac cggggattt cccggaccc gggcccgatc
 36651 ctacggcgcc accaactccg atgacgctga ggggtatgcg atgaccggcg
 36701 ggcgcactag cgtcatgtcc ggcgtatcg cctacacccctt gggcttagaa
 36751 ggtccagcga tcaccgttga caccgcctgc tcgtcatgcg tgggtggcaat
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36851 ccggcggcgt caccgtatg agcacacctg cggtttcac cgagttctcc
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 37451 tccaatggcc caacaccgcac caccggca cccgggggt gtcctcattc
 37501 ggcatcagcg gcaccaacgc ccacctcatc ctccaacaac cccccaccc
 37551 cgacaccaca caaaacccca acaccacaac aggttctgtat cccgcagtgg
 37601 gttctgatcc cgcagtgggt gtactgggtg ggcgttgtc agcgcgttca
 37651 ggcgggggt taagcgcaca agcggcccgat ctgtaccaggc atctcagcgc
 37701 ccaccccgat ctggatccga tcgatgttagc ccacaggctg getaccacac
 37751 gcagccacca cccccacccgc gccaccatca ccaccaggcat tgagcaccac
 37801 agcggaaaaca accacgacac aaccgatgcg ctggccgcac tgcacgcct
 37851 ggccaaacaac ggcacacacc ccctgcttag cagaggctg ctgacccac
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 38101 cagaccttct atgcacaacc ggcgttggc ggcgtggaa cccgcttaca
 38151 tcgattgttc acccacgcgg gtatccaccc ggactacctg ctaggccact
 38201 ccatcgaggaa actcaccgcg gcatacgccg cccgtgtgt gtcactgcaa
 38251 gacgcagcca ctttggtcac aagccgagga cgactgatgc aatcctgcac
 38301 gccccgggg acgatgctcg cactacaagc cagcgaagca gaagtacaac
 38351 cgctgcttgc aggcttagac cacggcggt ccatecgccgc gatcaacgga
 38401 gcaacgtcga tctgtactgtc aggagatcac gacagctcg aacaatcg
 38451 cgagcacttc attacccaaatcgcgtac caccgcactg caggtcagtc
 38501 acgctttcca ctctccacat atggacccca tcctcgaaca attccggcag
 38551 atcgcggccc aactcaccc cagcgcaccc accctgccc ttgtccaa
 38601 cctcaccggg cagatcgccc gccacgacca actcgctca cctgactatt
 38651 ggacccaaaca gtcacgtaac actgtccgggt tccatgacac tgcgttgc
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 38751 gttgacacaa gcgtaccccg acaccgtcg acaaggccgc ggcggcgccg
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 38851 gcagcactcg gccagctgca ctggccatggc atcagcccat cctggaatgt
 38901 tctttactgc caggcccgcc ccctcacact gcccacctac gttttccagc
 38951 atcagcgatcc ctggctgtcg cccaccgtcg gtgatttcag cggggccaaat
 39001 acccagccca tgcacccgtc gtcacccgtc gccacccgaac tggccgaaaa
 39051 ccgggatgg gtgttccaccc gccggatcag cccacgcacc caaccatggc
 39101 taaacgaaca cggcgatcgaa tcagccgtgc tggccagg caccggattt
 39151 gtcgagctag cgctgtatgt cgctgaccgt gccggatatt cctcggtcaa
 39201 cgaactgtatc gtgcacaccc cccgtctact cgctggccac gacaccgg
 39251 atctacagat caccgtcacc gacaccgtat acatggggccg gcaagtcttt
 39301 aacatccact cgcggccaca tatcgccat gacaacacca ccacccggcga
 39351 tgaacaaccc gagtggttcc tgcacccgtc cgacttgcacc accgcacaaa
 39401 ccaccgacca caaccaccc cccctaaacgc ctgtgcgtg gcctccaccc
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 39651 acacccctta ctcgcctga cccaaacccccc caccaacgc accgatgaca

39701 ccaacaccgc agacaccggg gaccaggtgc ggctgcccta cgcccttacc
 39751 ggcacatcggtt tgcacgcccac ccacgcccacc cgattacggg tacggctgac
 39801 ccgtaccggc gccgatgcca tcaccgtca caccagtgac accaccggag
 39851 ccccggtggc gatcatcgac tcattgtaca cccgccccct caccaccgccc
 39901 acagggtctg ctccggcaac cacagcagct ggcctactac acctgagctg
 39951 gccaccacac cctgacacca cgaccgacac cgacaccgac accgatgccc
 40001 tgcggtatca ggtgatgccc gaaccactc aacaactgccc ccgctacatcg
 40051 cacgacccatc acaccagcac cgacactgcac accagcacca cccaaggcaga
 40101 cgtgggtgtg tggccggtaac cggtgcccag caacgaagag ctccaggcaca
 40151 accaagcatac cgacaccggcgt gtgtttctc ggatacacac cctgaccggc
 40201 caaaactta ccgtgggtgca ggactggctc actcaccggc acaccaccgg
 40251 caccggactg gtcacatcgta cccgcccacgg cgtagcacc accgtccacg
 40301 acccggtccc cgacactagcc cacgcccggcgt tggtgggcct gatccggcagc
 40351 gccaaaacg aacaccccccggc acgcttcaca ctgctcgaca ccgacgacaa
 40401 caccaacagc gacaccctca ccaccggcct aaccctgcca acccgcgaaa
 40451 accaactggc catacgccgc gacaccatcc acatcccccg cctgaccgg
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 40601 agcatctggt ttgtggccat ggttccggc atctgtttt gacccctcg
 40651 cggggacccctc aggcccacgg tgccaccggat ctgcagcaccg ggctcaccgg
 40701 tcttaggtgct catgtcacca tcacggcctg cgatatcagc gaccccgaa
 40751 cactggccgc cctggtaat tcagtgccca cacaacacccg tttacccgg
 40801 gtagtgcaca ccggccgggtt attggccgac accccggcgtca ccggatgtac
 40851 cggcgatcaa ctcgaccagg tgctggcccc caaaatcgac gccggcatggc
 40901 agctgcacca actcacctac gaacacaacc tgctgcatt catcatgttc
 40951 tcgtccatgg ccggaatgtat aggcagttcc ggtagggta actacggcgg
 41001 agccaaacacc gcgttagatgt ctctcgccga ctaccggccac cgcctgggct
 41051 tgcccgcgac cagcctggcc tggggctact ggtagactca caccggctc
 41101 accgcgcatac taaccgtatgt agatctagcc cgcatgaccc gcctggggtt
 41151 gatgcccatac gccaccagcc acggactggc cctgttcgtat gcgcgcctcg
 41201 ccaccggaca gcccgtttcg atacccggcc cgtcaacac ccacaccctg
 41251 gccccgacacg cccgcgacaa caccctggcc cgcgttctgt ctgcgtgtat
 41301 caccacacca cggcgccggg cggcctctgc cgcaaccgtat ctgcgtgccc
 41351 gcctcaacgg acttagcccc caacagcaac aacaacact ggcacccctc
 41401 gtggccggg ccaccggccac cgtgtggc caccacaccc cggaaagcat
 41451 cagcccagcc accgcgttca aagacctcg aatcgattcg ctgaccggcc
 41501 ttgaactgca cAACACCTC acccacaaca cccgcctggaa tctgggggg
 41551 accctcatct tcgatcaccc cacaccccat gcgtaacccc aacacctgca
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 41701 atggccgcat ccaatttgaa ccaaagtttc agcaatatgg ctgaactcaa
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 41801 tcaccctgat ctgcacatct acctcagaga atgagtacgc tcgcctcg
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 41901 ttacgacgcg cagctgccaattcgataga gacgtcgacca gaggcgctgg
 41951 caactgcccattcacatcacccatcacccatcacccatcacccatcacccat
 42001 cactccatttgc tctgcgagct agtcaggca acgtgacac acgttacaaga
 42051 cgctgacatc gatcttgcgtt gtcgttctt gttggatcca ctgcgaaggga
 42101 ctaacagcac tgaagattat gtggagacag tcttgcgtt aatcgagcat
 42151 atcaatgcac cgagggtcgg agtagacggt taccttgcgg ccctggccg
 42201 ctatctccaa ttccacgaag accggccat accaataccg gaaacgcggc
 42251 acatgacact gcactcgac acgaaaattt accgtgccc aacaccaatg
 42301 aacttattac aagatgagggc agcgttgacc gccctcaaaaa taggaaactg
 42351 gatgaacgac gtgggttttgc ccctctctgt caaccccttgag tga

FIGURE 8(continued)

Mup045 gene

```

1  gtgatttgga atgacatcta cataagtgga acggggcggtt tcatcccgta
51  aatgcgacca attaatgata tccaggtcga cggtgttccg aatgatcata
101 ctatcgta atccgattac atttccttca cccaagccga tgagccggct
151 acagtcatgg ccaacgcgcgc tgcaaccgaa gcgctgacca cttccgagct
201 agtatccgct gatgttggcg tcttgatata tgccgcgatc atcggcgatg
251 cgcatttcattt tgcccccgta tgtcacgtcc aaagagtccct cggggcgccc
301 gatgcgcgtgg cattcgaact ttccgcagca agtaacggtg gaacacaagg
351 catcgcaagtt gctgcaaaatc tcatgacagc tgacgcgtcc gtgaaagctg
401 cactcggttgc tacagcttac cggcacccgaa tcgatattat cagccgttgg
451 tcgtcaggta tggtattcgg ccatggagca gccgcgcgcg tgcttcaag
501 agacggcgga atgggtgcgt tgatttccgg gtatcacggc tcactgccgg
551 agcttagaggt tcttgctaga aatcgatcca acgaacgact tggcttgg
601 ctgcccagacg tgggtttagg aaaataccta actgctatacg cgcggatgta
651 ccaaggcgta attgcgcaag tactagaaga ggcacaaaact agtattgcgg
701 agatcgacta tttcggcctg atcggtatacg gaattccaag tctcacagcg
751 actatcttag aacccaacgg tattccagtt aataaaaacat cctggggttt
801 gctaaagacaa atggggccacg ttggagcttgc cgatcccctg ctgagcctta
851 accacctatt cgagcagaat gtcctcaaggc gcggcgacaa agtctactc
901 cttaggtggcg ggggtgggtta tcgattgaca tgcattgtgg ctgaaatcgc
951 catgaatccc ggcgtgccc gacactccac ttctgttag

```

FIGURE 9

Mup053 gene

```

1  gtgaggccaga gattgaactg gattgcggcg cacgggttgc tccgcggcac
51  cgcgcgggta gcccggccggc tggggcgacgt gcagtcgcgg ctgggtggcag
101 atccccatggt tatggcaaac ccggcgccat tttgcgtatgc attgaggcgca
151 atcggccctg tgggtgtcgag ctacggcacc cacctcgctcg ttatgtcatgc
201 catcgcccat gaactgcttc ggtccgaaga cttcgaagtg gtctcgctcg
251 gatcgaaactt gcccgcacca atgcgttgc tagagccgcg cactcgggac
301 gatacgcccc atctgtctgc gccggcgtcg ttgctggccg ttgagccgccc
351 gaatcacacg cgctatcgca aggcaagtgtc ctcgggttgc acgcccggaaag
401 cagtagccgg attacgcgtat catgtcgaag agactgcgtc ggcgcgttgc
451 gatcagctca ccgaccaggc tagtgcgttc gacatcatag cccgctactg
501 ctcccagctg cccgtcgccg tcatttgcgtatcatcttaggc gtgcccagtc
551 gagaccggaaa ccgtgttctc aagttcggtc agctggccgg gcccgttgc
601 gattttggc tcacatggcg tcagcaccag caggtgcggc aagggtctcca
651 aggactccac ttctggatca ccgagcacct cgaggaattt cggctctaacc
701 ccggtgacga tctgtatgagt caaatgatcc acgcaagtga aaatggctcc
751 tcggaaacac acctccacgc aaccgaagtgc cggatgtatcg ggctgggttt
801 gggcccaagt ttgcacaaatcgatggacct gttaggcaac gggattcagg
851 tgggtttggc ccggccggaa ctgcgggacg cgtttagtca gcggccggca
901 ctttggccca acgcggtaga agagatcctg cgggtggagc caccgggtca
951 gctgcgcggaa cgaatggctc gcaaggacac cgagggtggcg ggtaccgca
1001 tcaaggccccccggg ccagctgggt gcgatctatc tggggggcggt caaccgtat
1051 ccgtccgtgt tcgcgcgttcc gcaccgcgtt gacatcacac gagccaaacgc
1101 caaccggcat ctcgcatttc ccgggtggccg ccacttctgc ctcgggtggccg
1151 cccttggcccg cgtcgaaggc gaagtcggat tgagaatgt cttcgagcgc
1201 ttccctgacg tgcgcgcgcg aggccccggaa aatagacgtg atactcgaaac
1251 tctgcgggggt tggtcgcagc tgccgggtcca gttggggcgca gcacgatcgaa
1301 tggctatcccg atga

```

FIGURE 10

Mup038 gene

1 atgattgttt ggcccgaagt ggtcagcaca gtggtcgacg tcgatggcgt
51 ggcgatgtcg gcactagtcg ccgaacccga tcaggagcct aaggccgtga
101 tcttagccct gcatggcggt gccacccaacg cgccgttattt cgactgccct
151 ggccaccgcg cgctttccct gctgcacacc ggccggcgg cgggattcac
201 cgttgtgcc cttgaccggc ccggctacgg cagctggcg ggtgatcccg
251 acgcgatgaa ccggcccccac cagcggcccg cgctggccta tggggcgctg
301 gatcgatcc tggcgcagcg gccacgggg gccgggggtgt tcataatggg
351 ccattcaaac ggatgcgaac tggcgatgtg gatggccacc gagacgcgcg
401 gtgcccagct gctcggcatc gagttggctg gtaccggctg gcattatcag
451 cccgaggccc gagaatcct gacaacggcc actggtaac atcggtgggt
501 gggccttat gattgctct ggcattccgca gggctatac ccgcggagg
551 tcctcaacgc ggccatcatt tcttcgtccg cccggccta cgaggagcag
601 atgatggccg actggacccg ccgaacccctc ctggagctag tccctgctgt
651 gcgtgtgccg gtacattca gcatcgccca acacgaaaag gtttggcage
701 gcgatagttc agcgctagat gaaatcgccg tccctgttctc tggccggccg
751 cggttcatcc tgcatttaca acccgaggcc ggacacaaca tcagcctggg
801 ccacaccgcc ggcgactacc acacgacagt cctgtcgttt gtccagcaat
851 gtctggccga acggttggcc aacgcgcaac aagatgtcga tctcgccggcc
901 gagtga

FIGURE 11

MlsA1 protein

VIFGDAHQNCRRGRVLGDAVAVVGMSRVPGASDPDALWALLRDGI SVVDEIPSARWNLD
 GLVAHRLTDEQRSALRHGAFLLDVEGFDAAFFGINPSEAGSMDPQQQLMELTWAALEDA
 RIVPEHLSGSSSGVFTGAMSDDYTTAVTYRAAMTAHTFAGTHRSLI ANRVSYTLGLRGPS
 LVIDTGQSSSLAVHVAMESLRREETS LAIAGGIHLNLSLAAALSAAHFGALSPDGRCYT
 FDARANGYVRGEGGGVVVLKRLNDALADGNHIYCVIRGSSVNNDGATQDLTAPGVDGQRQ
 ALLQAYERAEIDPSEVQYVELHGTGTRLDPTEAHSLHSVFGTSTVPRSPLLVGSIKTNI
 GHLEGAAGILGLIKTALAVHHRQLPPSLNYTVPNPKIPL EQLGLRVQTTLSEWPDLKPL
 TAGVSSFSMGGTNALHLILQQPPTPDTTQTPNPTTGS DPAVGSDPAVGVLVWPLSARSAPG
 LSAQAARLYQHLSAHPDLDPIDVAHSLATTRSHPHRATITTSIEHHSENNHDTDALAA
 LHALANGNTHPLLSRGLLTPQPGPKTVFVFPQGSQYPGMGADLYRQFPVFAHALDEVA
 ALNPHLDVALLEVMSQQDTAMAQLLDQTFYAQPALFALGTALHRLFTHAGIHPDYLLGH
 SIGELTAAYAAGVLSLQDAATLVTSGRQLMQSCTPGGTMLALQASEAEVQPLLEGGLDHAV
 SIAAINGATSIVLSGDHDSLEQIGEHFITQDRRTTRLQVSHAFHSPHMDPILEQFRQIAA
 QLTFSAPTL PILS NLTGQIARHDQLASPDYWTQQLRNTVRFHDTVAALLGAGEQV FLELS
 PHPVLTQAITDTVEQAGGGGAAPALRKDRPDAVAFAAALGQLHCHGISPSWNVLYCQAR
 PLTLPTYAFQHQRWLLPTAGDFSGANTHAMHPLLDTATELAENRGWVFTGRISPTQPW
 LNEHAVESAVLFPNTGFVELALHVADRAYSSVNEIVHTPLLLAGHDTADLQITVTD
 DMGRQSLNIHSHPHIGHDNTTGDEQPEWVLHASAVLTAQTTDHNLPLTPVPPPGTA
 AIEVDDFYDDLAQGYNYGPTFQGVQRIWRDHATPDVIYAEVELPEDTDIDGYGIHPALF
 DAALHPLLALTQPPNTDNTADTGDQVRLPYAFTGISLHATHATRLRVRLRTGADA
 ITVHTSDTTGAPVAIIDSLITRPLTTATGSAPATTAAGLLHLSWPPHPDTTDTDTDA
 LRYQVIAEPTQQLPRYLHDLHTSTDHTSTTEADVVVWPVVPVPSNEELQAHQASDTAVSS
 RIHTLRTQTLTVVQDWLTHPDTTGTRLVIVTRHGVS TAHDPVPLAHA AVWGLIRSAQ
 EHPGRFTLLDDNTNSDTLTTALTLPTRENQLAIRRTDIHIPRLTRHSSDGALTAPVV
 DPEGTVLITGGTGTGALFAEHLVSAHGVRHLLTSRRGPQAHGATDLQQLTDLGAHVT
 ITACDISDPEALAALVNSVPTQHRLTAVVHTAAVLADTPVTELTGDQLDQVLAPKIDAA
 QLHOLTYEHNLSAFIMFSSMAGMIGSPGQGNYAAANTAL DALADYRHLGLPATS LAWGY
 WQTHGLTAHLDVDLARMTRLGLMPIATSHGLALFDAA LATGQPVSI PAPINTHTLARH
 ARDNTLAPILSALITT PRRRAASAATDLAARLNGLSPQQQQQT LATLVAATATVLGHHT
 PESISPATAFKDLGIDSITALELRNLT HNTGLNLSSTLIFDHPTPHAVA EHLLEQIPGI
 GALVPAPVIIAAGRTEEPVAVG MACRFPGGVASADQLWDLVIA GRDVVGNFPADRGWDV
 EGLFD PDPDAVGKTYTRYGAFLDDAAGFDAGFFGISPREARAMDQQRLLLEV CWEALET
 AGIPAHTLAGTSTGVFVGAWAQSYGATNSDDAEGYAMGGATSVMSGRIAYTLGLEGPAI
 TVDTACSSSLVAIHLACQSLRNNESQLALAGGVTVMSTPAVFTDFS RQGLAPDGRCKAF
 AATADGTGWGEAAVLVLERLSEARRNNHPVLAIVAGSAINQDGASNGLTAPGPSQQR
 INQALANAGLTHDQVDAVEAHGTTLGDPIEAGALHATYGHHTPDQPLWLGSISKNIG
 HTQAAAGAAGVVKM IQAITHATLPATLHV DQPSPHIDWSSGTVRLLTEPIQWPNTDH
 AA VSF G ISGTNAH LILQQPPTPDTTQTPNPTTGS DPAVGSDSAVGSDPAVGVLV
 RSA PGLSAQAARLYQHLSAHPDLDPIDVAHSLATTRSHPHRATITTSIEHHSENNH
 DTT DALAALHALANGNTHPLLSRGLLTPQPGPKTVFVFPQGSQYPGMGADLYRQFPV
 FAHAL DEVA AALNPHLDVALLEVMSQQDTAMAQLLDQTFYAQPALFALGTALHRLF
 THAGIHPD YLLGHSIGELTAAYAAGVLSLQDAATLVTSGRQLMQSCTPGGTMLALQ
 ASEAEVQPLLEG LDH AVSIAAINGATSIVLSGDHDSLEQIGEHFITQDRRTTRLQ
 VSHAFHSPHMDPILEQF RQIAAQLTFSAPTL PILS NLTGQIARHDQLASPDY
 WTQQLRNTVRFHDTVAALLGAGEQV FLELS PHPVLTQAITDTVEQAGGGGA
 APALRKDRPDAVAFAAALGQLHCHGISPSWNVLYCQARPLTLPTYAFQHQR
 WLLPTAGDFSGANTHAMHPLLDTATELAENRGWVFTGRISPTQ
 PWLNEHAVESAVLFPNTGFVELALHVADRAYSSVNEIVHTPLLLAGHDTADLQIT
 VTD TDMGRQSLNIHSHPHIGHDNTTGDEQPEWVLHASAVLTAQTTDHNLPL
 TVPWP PPGTA AIEVDDFYDDLAQGYNYGPTFQGVQRIWRDHATPDVIYAE
 VELPEDTDIDGYGIHPALFDAA LHPLLALTQPPNTDNTADTGDQVRLPYA
 FTGISLHATHATRLRVRLTRTGADAI TVHTSDTTGAPVAIIDSLITRPLTT
 ATGSAPATTAAGLLHLSWPPHPDTTDTD TDT DALRQVIAEPTQQLPRYL
 HDLHTSTDHTSTTEADVVVWPVVPVPSNEELQAHQASD
 TAVSRIHTLRTQTLTVVQDWLTHPDTTGTRLVIVTRHGVS
 TAHDPVPLAHA AVWGLIRSAQNEHPGRFTLLDDNTNSDTLTTALTLPTRENQ
 LAIRRTDIHIPRLTRHSSDGALTAPVVVDP EGTVLITGGTGTGALFAEHLV
 SAHGVRHLLTSRRGPQAHGATDLQQLTDL

GAHVITACDISDPEALALVNSVPTQHRLTAVVHTAAVLADTPVETLGQDQLDQVLAPK
 IDAAWQLHQLTYEHNLASFIMFSSMAGMIGSPGQGNYAAANTALDALADYRHRLGLPATS
 LAWGYWQHTGLTAHLDVLARMTRLGLMPIATSHGLALFDAALATGQPVSI PAPINTH
 TLARHARDNTLAPILSALITTPRRRAASAATDLAARLNGLSPQQQQTLATLVAATATV
 LGHHTPESISPATAFKDLGIDS LTAEELRNTLTHNTGLNLSSTLIFDHPTPHAVAELLE
 QIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASADQLWDLVIAGR DVVGNFPAD
 RGWDVEGLFDPPDAVGKTYTRYGAFLDDAAGFDAGFFGISPREARAMDPQQRLLLEV
 EALETAGIPAHTLAGTSTGVFVGAGAQSYGATNSDDAEGYAMTGGATSVMSGRIAYTLGL
 EGPAITVDTACSSLVIAHLACQSLRNNESQLALAGGVTMSTPAITFEFSRQRGLAPDG
 RCKAFAATADGTGWGEGAABLVLERLSEARRNNHPVLAIVAGSAINQDGASNGLTAPHGP
 SQQRVINQALANAGLTHDQVDAVEAHGTGTTLGDPIEAGALHATYGHHTPDQPLWLSI
 KSNIGHTQAAAGAAGVVKMIQAITATLPATLHVDQPSPHIDWSSGTVRLLTEPIQWPNT
 DHPRTAAVSSFGISGTNAHLILQOPPTDTTQTPNPTGSDPAVGSDPAVGVLV
 WPLSARSAPGLSAQAARLYQHLSAHPDLDPIDVAHSLATRSHHPRATITTSIEHHSEN
 NHDTDALAALHALANNGTHPLLSRGLLTPQPGKTVFVFPQGSQYPMGADLYRQFPV
 FAHALDACDAALQPFTGWSVLAVLHDEPEAPSLERVDVVQPVLF SVMVSLAALWRWAGIT
 PDAVIGHSQGEIAAHVAGALTLPEAAAVVALRSRVLTDLAGAGAMASVLSPEEPLTQLL
 ARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENIDARAI PVDYPSHSPYMEHIRH
 QFLDELPELTPRPSTIAMYSTVDGEPHDTAYDTTMADYWYRNIRNTVRFHDTVAALLG
 AGEQVFLELSHPVLTQAITDTVEQAGGGAAVPALRKDRPDAVAFAAALGQLHCHGISP
 SWNVLYCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTHAMHPLLDTATELAENRGWVFT
 GRISPRTQPWLNEHAYESAVLFPGTGFVELAHVADRAYSSVNE LIVHTPLLAGHDTA
 DLQITVTDTDDMGRQSLNIHSRPHIGHDNTTGDEQPEWVLHASAVLTAQTTDHNLPLT
 PVPWPPGTAAIEVDDFYDLAAQGQNYGPTFQGVQRIWRDHATPDVIYAEVELPEDTDI
 DGYGIHPALFDAAHLPLLA LQOPPTNDTDDNTADTGQVRLPYAFTGISLHATHATRLR
 VRLTRTGADAITVHTSDTGAPVIAIDSLITRPLTTATGSAPATTAAGLLHLSWPPHPDT
 TTDTDTDALRQVIAEPTQQLPRYLHDLHTSTDHTSTEADVVWPVVPVPSNEELQA
 HQASDTAVSSRIHTLRTQLTVVQDWLTHPDGTGTRLIVTRHGVS TSADHPVPLAHA
 VWGLIRSAQNEHPGRFTLDDNTNSDTLTTALTPRENQLAIRRDTIHIPRLTRTAV
 LTPPDGPWRLDTTGKGLANLALLPTAHTALASQIRIDVRAAGLFHDVVVALGLIPD
 DGFGEAAGVISEIGPDVYGFAGDAVTGMTVSGAFAPSTVADHRMVTIPARWSFPQAA
 SIPVVFATYIALAEISGLSRGQRVLIHAGTGGVGMAAIQLAHHLGAEVFTA
 SAAKWSTLEALGVPRDHIASSRTLDFNSNAFLDATNGAGDVVLNCLSGEFV
 EA SALLPRGGHFVEI
 GKTDIRDTEVIAATHPGVYRALDLLSVSPDHQRTLAQLSPLFATDTLKPLPTN
 SIY
 QAI SALRDMSQARHTGKIVLTAPVVDP EGTVLITGGTGTGALFAEHLVSAHGV
 RHL
 TSRRGPQAHGATDLQQLTDLGAHVITACDISDPEALALVNSVPTQHRLTAVVHTAVV
 LADTPVTELTGDQLDQVLAPKIDAAWQLHQLTYEHNLASFIMFSSMAGMIGSPGLGNYAA
 ANTALDALADYRHRLGLPATS LAWGYWQHTGLTAHLDVLARMTRLGLMPIATSHGLA
 LFDAALATGQPVSI PAPINTH TLARHARDNTLAPILSALITTPRRRAASAATDLAARLN
 LSPQQQQTLATLVAATATVLGHHTPESISPATAFKDLGIDS LTAEELRNTLTHNTGLN
 LSSTLIFDHPTPHAVAELLE QIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVAS
 ADQLWDLVIAGR DVVGNFPADRGWDVEGLFDPPDAVGKTYTRYGAFLDDAAGFDAGFF
 ISPREARAMDPQQRLLLEV
 CWEALETAGIPAHTLAGTSTGVFVGAGAQSYGATNSDGAEG
 YAMTGGAI SVMSGRIAYTLGLEGPAITVDTACSSLVIAHLACQSLRNNESQLALAGGVT
 VMSTPAITFEFSRQRGLAPDGRCKAFAATADGTGFGEAABLVLERLSEARRNNHPV
 LAIVAGSAINQDGASNGLTAPGPSQQRVINQALANAGLTHDQVDAVEAHGTGTTLGD
 PIEAS
 ALHATYGHHTPDQPLWLSI
 KSNIGHTQAAAGAAGVVKMIQAITATLPATLHVDQPS
 HIDWSSGTVRLLTEPIQWPNTDHPRTAAVSSFGISGTNAHLILQOPPTD
 TTQTPNTTGD
 SDPAVGSDSAVGSDPAVGVLWPLSARSAPGLSAQAARLYQHLSAHPDLD
 PIDVAHSLAT
 TRSHHPRATITTSIEHHSEN
 HDTDALAALHALANNGTHPLLSRGLLTPQPGKTVF
 FPGQGSQYPMGADLYRQFPV
 FAHALDACDAALQPFTGWSVLAVLHDEPEAPSLERV
 DVV
 QPVLF SVMVSLAALWRWAGITPDAVIGHSQGEIAAHVAGALTLPEAAAVVALRS
 RVLT
 D
 LAGAGAMASVLSPEEPLTQ
 LLARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENI
 DARAIPVDYPSHSPYMEHIRHQFLDELPELTPRPSTIAMYSTVDGE
 PHDTAYDT
 TMTAD
 YWYRNIRNTVRFHDTVAALLGAGEQVFLELSHPVLTQAITDTVEQAGGGAAVPALRK
 D
 RPDAVAFAAALGQLHCHGISP
 SWNVLYCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTH

FIGURE 12(continued)

46/112

AMHPLLDTATELAENRGWVFTGRISPRTPWLNEHAVESAVLFPGTGFVELALHVADRG
 YSSVNEVHTPLLAGHDTADLQITVTDTDDMGRQSLNIHSRPHIGHDNTTGDEQPEW
 VLHASAVLTAQTTDHNLPLTPVPPPGTAAIEVDDFYDDLAQGNYGPTFQGVQRIW
 RDHATPDVIYAEVELPEDTDIDGYGIHPALFDAALHPLLALTQPPNTDNTADTGDQ
 VRLPYAFTGISLHATHATRLRVRLTRTGADAITVHTSDTGAPVAIIDSLITRPLTTATG
 SAPATTAAGLLHLSWPPHPDTTDTDTDALRYRVIAEPTQQLPRYLHDLHTSDLHTS
 TTEADVVVWPVPVPSNEELQAHQASDTAVSSRIHTLRTQTLTVVQDWLTHPDGTGRLVI
 VTRHGVSHTSAHDPPVPLAHAAVWGLIRSAQNEHPGRFTLDDNTNSDTLTTALTPTR
 ENQLAIRRDTIHPRLTRHSSDGALTAPVVDPGTVLITGGTGTGALFAEHLVSAHGV
 RHLLTSRRGPQAHGATDQQLRTDGAHVTITACDISPDEALALVNSVPTQHRLTAVV
 HTAAVLADETPVTELTGDQLDQVLAPKIDAALWQHQLTYEHNLSAFIMFSSMAGMIGSPGQ
 GNYAAANTALDALADYRHRLGLPATS LAWGYWQHTGLTAHLDVDLARMTRLGLMPIAT
 SHGLALFDAALATGQPVSIPAPINTHTLARHARDNTLAPILSALITPRRRAASAATDLA
 ARLNGLSPQQQQTLATLVAATATVLGHHTPESISPATAFKDLGIDSLTAELRNTLTH
 NTGLDLPPTLIFDHPTPTALTQHHLTRLTGALVPAPVVIAGRTEEPVAVGMACRFPG
 GVASADQLWDLVIAGR DVVGNF PADRGWDV EGLFD PDPDAVGKTYTRYG AFLDDAAGFDA
 GFFGISPREARAMDQQLLLEV CWEALETAGI PAHTLAGTSTGVFVGAWAQS YGATNSD
 DAEGYAMTGGAI SVMSGRIAYT LGLEGP AITV D TACSSSLV A IHLAC QSLRNNE SQLALA
 GGV T VMSTPAVFTDFSRQRGLAPDGRCKAFAA TADGTGFGE GA AVL VLERLSEARRNNH P
 VLAIVAGSAINQDGASNGLTAPH GPSQQRV INQ ALA NGL THD QV DAVEAHGTGTTLGDP
 IEAGALHATYGHHTPDQPLWLGSIKSIGHTQAAAGAAGVVKMIQAI THATLPA T LHV D
 QPSPHIDWSSGTVRLLTEPIQWPNTDHPRTA AVSSFGISGTNAHLLI LQOPPTPD T QT P N
 TTTGSDPAVGSDPAVGVLVWPLSARSAPGLSAQARLYQHLSAHPDLDPIDVAHSLATTR
 SHHPRATITTSIEHHSENNHDTTDALAALHALANGTHPLLSRGLLTPQGPGKTVFVFP
 GQGSQYPMGADLYRQFPVFAHALDACDAALQPTGWSVLA VLHDEPEAPS LERV D VV QP
 VLF SVMV S LAALWRWAGITPD AVIGH S QGE IAAAHVAGA TLPEAA VVAL RSRV L TDLA
 GAGAMASVLSPEEPLTQLLARWDGKITVAA VNGPASAVVSGDTTAI TELLITCEHENIDA
 RAIPVDYPSHSPYMEHIRHQFLDEPELTPRSTI AMYSTVDGE PHDTAYDTTM TADY W
 YRNIRNTVRFHDTVAALLGAGEQV FLELSHPVLTQAITDTVEQAGGGGAAVPA L R KDR P
 DAVAFAA ALGQLHCHGIPSWNVLYCQARPLTLP TYAFQH QRYWLLPTAGDFSGANTH AM
 HPLLDTATELAENRGWVFTGRISPRTPWLNEHAVESAVLFPGTGFVELALHVADRGYS
 SVSNEVHTPLLAGHDTADLQITVTDTDDMGRQSLNIHSRPHIGHDNTTGDEQPEWVL
 HASAVLTAQTTDHNLPLTPVPPPGTAAIEVDDFYDDLAQGNYGPTFQGVQRIW
 HATPDVIYAEVELPEDTDIDGYGIHPALFDAALHPLLALTQPPNTDNTADTGDQVR
 LPYAFTGISLHATHATRLRVRLTRTGADAITVHTSDTGAPVAIIDSLITRPLTTATGSA
 PATTAAAGLLHLSWPPHPDTTDTDTDALRYQVIAEPTQQLPRYLHDLHTSDLHTSTT
 EADVVVWPVPVPSNEELQAHQASDTAVSSRIHTLRTQTLTVVQDWLTHPDGTGRLV
 RHGVSTSAHDPPVPLAHAAVWGLIRSAQNEHPGRFTLDDNTNSDTLTTALTPTR
 QLAI RRD T IHPRLTRTAVLTPD SGPW RLDTGKGD LAN ALLPTAHTALASQ I RIDV
 RAAGLNFDV VVALGLI PDDGFGGEAAGV ISEIGPDVYGF AVGDAV TGM TVSGA FAPSTV
 ADH RMVMTI PARWSFPQAASIPVVF LTAYIA LAEISGLSRG QRV LIHAGTGGVGMAAIQL
 AHHLGAEVFATASA AKWST LEALGVPRDHIASSRTLDF SNAFL DATNGAGV D VV L NCLSG
 EFVEASLALLFRGGHFVEIGKTDIRDTEVIAATHPGV IYRAL DLLS VSPD H I QRT LA QLS
 PLFATDTLKPPLPTTNSIYQAI S ALR DMSQARH TGKIVLTAPVVDP EGTVLITGGTGL
 GALFAEHLVSAHGV RHLLTSRRGPQAHGATDQQLRTDGAHVTITACDISPDEALAL
 VNSVPTQHRLTAVVHTAAVLADTPVTELTGDQLDQVLAPKIDAALWQHQLTYEHNLSAFI
 MFSSMAGMIGSPGQNYAAANTALDALADYRHRLGLPATS LAWGYWQHTGLTAHLDV
 LARMTRLGLMPIATSHGLALFDAALATGQPVSIPAPINTHTLARHARDNTLAPILSALIT
 TPRRRAASAATDLAARLNGLSPQQQQTLATLVAATATVLGHHTPESISPATAFKDLGI
 DSLTAELRNTLTHNTGLNLSSTLI FDHPTPHAVAEHLL EQI PGIGALV PAPVVI AAGRT
 EEPVAVVGMACRFPGGVASADQLWDLVIAGR DVVGNF PADRGWDV EGLFD PDPDAVGKTY
 TRYGAFLDDAAGFDAGFFG I S P REARAMDQQLLLEV CWEALETAGI PAHTLAGTSTGV
 FVGAGAQSYGATNSDDAEGYAMTGGATVMSGRIAYT LGLEGP AITV D TACSSSLV A IHL
 ACQSLRNNE SQLA LAGGV T VMSTPAVFT EFSRQRGLAPDGRCKAFAA TADGTGFGE GAAV
 LVLERLSEARRNNH P VLAIVAGSAINQDGASNGLTAPH GPSQQRV INQ ALA NGL THD QV
 DAVEAHGTGTTLGDPIEAGALHATYGHHTPDQPLWLGSIKSIGHTQAAAGAAGVVKMI
 QAI THATLPA T LHV D QPSPHIDWSSGTVRLLTEPIQWPNTDHPRTA AVSSFGI SG TNAHL

FIGURE 12(continued)

ILQQPPTPNPTQTPEDCSPAQSPCATITDAGTGLSFVPWVISAKSAEALSAQASRLTRL
 DDDPVVDAIDLGSILATRSMFHRRAVVGADRHLQRLAELASGNLGADVVGARAA
 GETVMVFPQGSQRLGMGAQLYEQFPVFAAAFFDVDA LDQYLRPLRQVMWGDEGLLN
 STEFAQPSLFAVEVALFALLRFWGVPVDYVIGHSGVGEAAAQAGVLSIQDAAKLVSARG
 RLMQALPAGGAMVAVAASQHEVEPLLVEGVVDIAALNAPGSVVISGDOAAVRLIANRLADR
 GYRAHELAVSHAFHSSLMEPMLEEFARLASEIVVEQPQIPLISNTVGQLANADYGSAGYW
 VDHIRRVPVRFADSVASLEAMGASCFIEVGPASGLGAAIEQSLKSAEPTVSVSALSTDKPE
 SVAVLRAAARLSTSGIPVWDQSVFDGRSTQTVNLPTYAFQRQRFWLDANRIGQGDPASQP
 QAQNVESRFWEAVEREDVDGLAD SIGVTASAMQTVLPALSSWRRAERTQSELD SWRYQVT
 WLSSPATPSSITLSGIWLLIVPSELAKTDPIGCAAALAEAHGALVTTI FEPDFNRSLM
 GASLKDIGHISGVISFLGIHGSEFSDSGAVKTLNLQAMGDVHLDVPLWCLTQGAVSIS
 ADDLIRCSSAALVWGLRVVALEHPGSWGLVLPESPDDAAWERL CALLAQPTDEDQFA
 IRPSGVFLRRLIHAPATTSKSSTAWAPRGTVLITGGTGALGAHVARWLAHKYESVDLLL
 TSRRGMAADGATELVDDLRTAGASVTVHACDVTDR TSVEAAIAGKS LDAVFHLAGRHQPT
 LLTELEDESFSDELAPKVHGAQVLS DITSNLTLSAFVMFSSVAGI WGGKSQGAYAAANAF
 LDSLAEKRTTLGLPATSVAVGLWAGGGMGRPSASGLNLIGLKSMSADLAVQALSDAI DR
 PQATLTVASVNWDRFYPTFALARPRPFLHEITEVMAYRESMRSSSASTATLLTSKLAGLT
 ATEQRAVTRKLVLQDQAASVLGYASTESLDTHESFKDLGFD SLT ALELRDHLQATGLNLS
 STLIFDHPTPHAVAEHLLEQIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASAD
 OLWDLVIAGR DVVGNFPADRGWVGLFD PDPDAVGKTYTRYGAFLDDAAGFDAGFFG
 ISPREARAMDPQQRLLLEV CWEALETAGI PAHTLAGTSTGVFAGAWAQS YGATNSDDAEGYA
 MTGGSTS VMSGRIAYT LGLEGP AITVDTACSSLV AHIACQSLRNNESQLA LAGGVTVM
 STPAI FTEFSRQRLAPDGRCKAFAATADGTGFGE GA AVL VLERLSEARRNNHPVLAIV
 GSAINQDGASNGLTAPHG PSQQRV INQALANAGLTHDQVDAVEAHGTGTTLGDPIEASAL
 HATYGHHTPDQPLWLGSIKS NIGHTQAAAGAVVKM QAI THATLPATLHV DQPSPHI
 DWSSGTVRLLTEPIQWPNTDHPR TAAVSSFGISGTNAH LILQQPPTPD T TQTPNTTGSD
 PAVGSDPAVGVLVWPLSARSAPGLSAQAA RLYQHLSAHPDLD PIVDVAHSLATRSHH
 PHRATITTSIEHHSENNHDT DALA ALHALAN NGTHPLLSRGLLTPOGPGKTVFVFPQGSQY
 PGMGADLYRQFPVFAHALD ACD AALQ PFTGWSV LAVLHDEPEAPS LERV D VVQPVLF
 VSLAALWRWAGITPD A VIGH SQGEIAAAHVAGALTLP EAA VVALRSRV L TDLAGAGAMA
 SVLSPEEPLTQLLARWDG KITVAA VNGPAS AVVSGDT TATELLITCEHENIDARAI PVD
 YPSHSPYMEHIRHQFLDELP E LTPR P STIAM YSTVDGEPHDTAYDTTMTAD YWYRNIR
 TVRFHDTV A ALLGAGEQV FLE LSPHPVLTQ AITD TVEQAGGGAAVPA LKDRP DAVA
 FA AALGQLHCHG I SPSWNV IY CQARPLT P YAFQHQRYW LPTAGDFSGANTHAMHPLLD
 ATELAENRGWVFTGRIS PRTQ PWLNE HAVE SAVLFP GTGF VELAHVAD RAGYSSV
 NELI VHTPLLLAGHDTADLQITVTD TDDMGRQSLNIHS HPHIGHDNTTGDEQPEW
 VLHASAVLTAQTDHNHLPLTPVWP PPPGTAAIEVDDFYDDLAQG YNYGPTFQGVQ
 RIWRD HATPDV IYAEV ELPEDTDIDGYGIH PALF D AALHPLLA TQPPTNDTDD
 NTADTGDQVRLPYAFTGISLHATHATR LRVRLTRGADAI TVHTSDTTGAPV
 A IIDS LITRPLTTATGSAPATTAA GLLHLSWPPHPDTT DTD T D A L R YQV
 IAEPTQQLPRYLHDLH STTEADVVVWPVPVP SNEELQAHQASDTAVSSRI
 HTLRTQTLTVQDWLTHPD T T GTRLIV VTRHG VSTSAHDPV
 PDLAHA AVWGLI R S A Q N E H P G R F T I L D T D D N T N S D
 L T A L T L P T R E N Q L A I R R D T I H P R L T R H S S D
 G A T D L Q Q R L T D L G A H V T I T A C D I S P E A L A
 A L V N S V P T Q H R L T A V V H T A A V L A D T P V T E L
 T G D Q L D Q V L A P K I D A A W Q L H Q L T Y E H N L S
 A F I M F S S M A G M I G S P G Q G N Y A A A N T A
 D A L A D Y R H R L G L P A T S L A W G Y W Q T H G L T
 A H L T D V D L A R M T R L G L M P I A T S H G L A L F
 D A A L A T G Q P V S I P A P I N T H T L A R H A
 R D N T L A P I L S A L I T P R R A A S A A T D L A
 A R L N G L S P Q Q Q Q Q T L A T I V A A T A T V L
 G H H T P E S I S P A T A F K D L G I D S T A L E R
 R N T L H N T G L D L P P T L I F D H P T P H A V A E
 H L L E Q I P G I G A L V P A P V I A A G R T E E P
 V A V V G M A C R F P G G V A S A D Q L W D L V I
 A G R D V V G N F P A D R G W D V E G L F D P D P
 D A V G K T Y T R Y G A F L D D A A G F D A G F
 F G I S P R E A R A M D P Q Q R L L L E V C
 W E A L E T A G I P A H T L A G T S T G V F
 A G A W A Q S Y G A T N S D D A E G Y A M T G G S T S
 V M S G R I A Y T L G L E G P A I T V D T A C S S L V
 A H I A C Q S L R N N E S Q L A L A G G V T V M
 S T P A V F T E F S R Q R G L A P D G R C K A
 F A A T A D G T G F G E G A A V L V L E R L S E
 A R R N N H P V L A I V A G S A I N Q D
 G A S N G L T A P H G P S Q Q R V I N Q A L A N
 A G L T H D Q V D A V E A H G T G T L G D P I E
 A S A L H A T Y G H H H T P D Q P L W L G S I K S
 N I G H T Q A A A G A G V V K M Q A I T H A T L
 P A T L H V D Q P S P H I D W S S G T V R L L
 T E P I Q W P N T D H P R T A A V S S F G I S G T
 N A H L I L Q Q P P T P D T T Q T P N T T G S D
 P A V G S D P A V G V L V W P L S A R S A P G L
 S A Q A A R L Y Q H L S A H P D L D P I D V A H
 S L A T R S H H P H R A T I T T S I

48/112

EHHSENNHD T D A A L H A L A N N G T H P L L S R G L L T P Q G P G K T V F V F P G Q G S Q Y P G M G A D L
 Y R Q F P V F A H A L D A C D A A L Q P F T G W S V L A V L H D E P E A P S L E R V D V V Q P V L F S V M V S L A A L W
 R W A G I T P D A V I G H S Q G E I A A A H V A G A L T L P E A A A V V A L R S R V L T D L A G A G A M A S V L S P E E
 P L T Q L L A R W D G K I T V A A V N G P A S A V V S G D T T A I T E L L I T C E H E N I D A R A I P V D Y P S H S P Y
 M E H I R H Q F L D E L P E L T P R P S T I A M Y S T V D G E P H D T A Y D T T M T A D Y W Y R N I R N T V R F H D T
 V A A L L G A G E Q V F L E L S P H P V L T Q A I T D T V E Q A G G G G A A V P A L R K D R P D A V A F A A A L G Q L H
 C H G I S P S W N V L Y C Q A R P L T L P T Y A F Q H Q R Y W L L P T A G D F S G A N T H A M H P L L D T A T E L A E N
 R G W V F T G R I S P R T Q P W L N E H A V E S A V L F P G T G F V E L A L H V A D R A G Y S S V N E L I V H T P L L L
 A G H D T A D L Q I T V T D T D D M G R Q S L N I H S R P H I G H D N T T G D E Q P E W V L H A S A V L T A Q T T D H
 N H L P L T P V P W P P P G T A A I E V D D F Y D D L A A Q G Y N Y G P T F Q G V Q R I W R D H A T P D V I Y A E V E L
 P E D T D I D G Y G I H P A L F D A A L H P L L A L T Q P P T N D T D D T N T A D T G D Q V R L P Y A F T G I S L H A T
 H A T R L R V R L T R T G A D A I T V H T S D T T G A P V A I I D S L I T R P L T T A T G S A P A T T A A G L L H L S W
 P P H P D T T T D T D T D A L R Y Q V I A E P T Q Q L P R Y L H D L H T S T D L H T S T T E A D V V V W P V P V P S
 N E E L Q A H Q A S D T A V S S R I H T L R Q T L T V V Q D W L T H P D T G T R L V I V T R H G V S T S A H D P V P
 D L A H A A V W G L I R S A Q N E H P G R F T L L D T D D N T N S D T L T A L T L P T R E N Q L A I R R D T I H I P R
 L T R T A V L T P P D S G P W R L D T T G K G D I A N L A L L P T A H T A L A S G Q I R I D V R A A G L N F H D V V V A
 L G L I P D D G F G G E A A G V I S E I G P D V Y G F A V G D A V T G M T V S G A F A P S T V A D H R M V M T I P A R W
 S F P Q A A S I P V V F L T A Y I A L A E I S G L S R G Q R V L I H A G T G G V G M A I Q L A H H L G A E V F A T A S
 A A K W S T L E A L G V P R D H I A S S R T L D F S N A F L D A T N G A G V D V V L N C L S G E F V E A S L A L L P R G
 G H F V E I G K T D I R D T E V I A A T H P G V I Y R A L D L L S V S P D H I Q R T L A Q L S P L F A T D T L K P L P T
 T N Y S I Y Q A I S A L R D M S Q A R H T G K I V L T A P V V V D P E G T V L I T G G T G T L G A L F A E H L V S A H G
 V R H L L L T S R R G P Q A H G A T D L Q Q R L T D L G A H V T I T A C D I S D P E A L A V L V S P T Q H R L T A V
 V H T A A V L A D T P V T E L T G Q L D Q V L A P K I D A A W Q L H Q L T Y E H N L S A F I M F S S M A G M I G S P G
 Q G N Y A A N T A L D A L A D Y R H R L G L P A T S L A W G Y W Q T R T G V T A H L T D V D L A R M T R L G L M P I A
 T S H G L A L F D A A L A T G Q P V S I P A P I N T H T I L A R H A R D N T L T P I L S A L I T T P R R R A A S A A T D L
 A A R L N G L S P Q Q Q Q Q T I A T L V A A A T A V L G H H T P E S I S P A T A F K D L G I D S L T A L E L R N T L T
 H N T G L D L P P T L I F D H P T P T A L T Q H L H T R L T T G A L V P A P V V I A A G R T E E P V A V V G M A C R F P
 G G V A S A D Q L W D L V I A G R D V V G N F P A D R G W D V A G L F D P D D A V G K T Y T R Y G A F L D D A A G F D
 A G F F G I S P R E A R A M D P Q Q R L L L E V C W E A L E T A G I P A H T L A G T S T G V F V G A G A Q S Y G A T N S
 D D A E G Y A M T G G A I S V M S G R I A Y T L G L E G P A I T V D T A C S S L V A I H L A C Q S L R N N S Q L A L
 A G G V T V M S T P A V F T D F S R Q R G L A P D G R C K A F A A T A D G T G F G E G A A V L V L E R L S E A R R N N H
 P V L A I V A G S A I N Q D G A S N G L T A P H G P S Q Q R V I N Q A L A N A G L T H D Q V D A V E A H G T G T L G D
 P I E A G A L H A T Y G H H H T P D Q P L W L G S I K S N I G H T Q A A A G A A G V V K M I Q A I T H A T L P A T L H V
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 N P T T G S D P A V G S D S A V G S D P A V G V L V W P L S A R S A P G L S A Q A R L Y Q H L S A H P D L D P I D V A
 H S L A T T R S H H P H R A T I T T S I E H S E N N H D T T D A A L H A L A N N G T H P L L S R G L L T P Q G P G
 K T V F V P G Q G S Q Y P G M G A D L Y R Q F P V F A H A L D E V A A A L N P H L D V A L L E V M F S Q Q D T A M A Q
 L L D Q T F Y A Q P A L F A L G T A L H R L F T H A G I H P D Y L L G H S I G E L T A A Y A A G V L S I Q D A A T L V T
 S R G R L M Q S C T P G G T M L A L Q A S E A E V Q P L L E G L D H A V S I I A I N G A T S I V L S G D H D S L E Q I G
 E H F I T Q D R R T T R L Q V S H A F H S P H M D P I L E Q F R Q I A A Q L T F S A P T L P I L S N L T G Q I A R H D Q
 L A S P D Y W T Q Q L R N T V R F H D T V A A L L G A G E Q V F L E L S P H P V L T Q A I T D T V E Q A G G G G A A V P
 A L R K D R P D A V A F A A A L G Q L H C H G I S P S W N V L Y C Q A R P L T L P T Y A F Q H Q R Y W L L P T A G D F S
 G A N T H A M H P L L D T A T E L A E N R G W V F T G R I S P R T Q P W L N E H A V E S A V L F P N T G F V E L A L H V
 A D R A G Y S S V N E L I V H T P L L A G H D T A D L Q I T V T D T D D M G R Q S L N I H S R P H I G H D N T T G D
 E Q P E W V L H A S A V L T A Q T D H N H L P L T P V P W P P P G T A A I E V D D F Y D D L A A Q G Y N Y G P T F Q G
 V Q R I W R D H A T P D V I Y A E V E L P E D T D I D G Y G I H P A L F D A A L H P L L A L T Q P P T N D T D D T N T A
 D T G D Q V R L P Y A F T G I S L H A T H A T R L R V R L T R T G A D A I T V H T S D T T G A P V A I I D S L I T R P L
 T T A T G S A P A T T A A G L L H L S W P P H P D T T D T D T D T D A L R Y Q V I A E P T Q Q L P R Y L H D L H T
 S T D L H T S T T E A D V V V W P V P V S N E E L Q A H Q A S D T A V S S R I H T L R Q T L T V V Q D W L T H P D T
 T G T R L V I V T R H G V S T S A H D P V P D L A H A A V W G L I R S A Q N E H P G R F T L L D T D D N T N S D T L T T
 A L T L P T R E N Q L A I R R D T I H I P R L T R H S S D G A L T A P V V V D P E G T V L I T G G T G T L G A L F A E H
 L V S A H G V R H L L L T S R R G P Q A H G A T D L Q Q R L T D L G A H V T I T A C D I S D P E A L A V L V S P T Q
 H R L T A V V H T A A V L A D T P V T E L T G D Q L D Q V L A P K I D A A W Q L H Q L T Y E H N L S A F I M F S S M A G
 M I G S P G Q Q N Y A A N T A L D A L A D Y R H R L G L P A T S L A W G Y W Q T H G L T A H L T D V D L A R M T R L
 G L M P I A T S H G L A L F D A A L A T G Q P V S I P A P I N T H T I L A R H A R D N T L A P I L S A L I T T P R R R A A
 S A A T D L A A R L N G L S P Q Q Q Q Q T I A T L V A A A T A V L G H H T P E S I S P A T A F K D L G I D S L T A L E
 L R N T L H N T G L D L P P T L I F D H P T P T A L T Q H L H T R L T Q I E S P N S E D S M L N L K N L D R I E S Y I
 F R N S G E D R A H V I A N R L R S I L S K W D G T R S P E L P A E L H L E S A T D D E L F S L A N M F R T P T S E I S
 P T L E G G R G V N *

FIGURE 12(continued)

MlsA2 protein

VVSTEENLRVYLKQVITDLHQMQARLRKIEKQSERVAVVGMACRFPGGVASADOLWDLV
 IAGRDPVGNFPADRGWDVEGLFDPPDAVGKYTRYGAFLDDAAGFDAGFFGISPREARA
 MDPQRLLLEVCWEALETAGI PAHTLAGTSTGVFVGAWAQS YGATNSDGAEGYAMTGGST
 SVMMSGRIAYTLGLLEGPAITVDTACSSLVIAIHACQSLRNNESQLALAGGVTVMST PAVF
 TEFSRQRGLAPDGRCKAFAATADGTGWGEAAVLVLERLSEARRNNHPVLAIVAGSAINQ
 DGASNGLTAPHGPSQQRVINQALANAGLTHDQVDAVEAHGTGTLGDPIEASALHATYGH
 HHTPDQPLWLGSIKSNIGHTQAAAGAAGVVKMIQAITATHATLPATLHVDQPSPHIDWSSGT
 VRLLEPIQWPNTDHPRTAAVSSFGISGTONAHLLILQQPPTPDTTQTPNTTGSDPAVGSD
 SAVGSDPAVGVLVWPLSARSAPGLSAQAAARLYQHLSAHPDLDPIDVAHSLATTRSHHPR
 ATITTSIEHHSENNHDTTDALAALHALANNGTHPLLSRGLLTPQGPGKTVFVPGQGSQY
 PGMGADLYRQFPVFAHALDEVAAAALNPHLDVALLEVMSFSQQDTAMAQLLDQTFYAQ PALF
 ALGTLALHRLFTHAGIHPDYLGHSIGELTAAYAAGVLSIQDAATLVTSGRGLMQSCTPGG
 TMLALQASEAEVQPLLEGLDHAVSIAAINGATSIVLSDHDSLEQIGEHFITQDRRTTRL
 QVSHAFHSPHMDPILEQFRQIAAQLTFSAPTL PILS NLTGQIARHDQLASPQYWTQQLRN
 TVRFHDTVAALLGAGEQVFLFELSPHPVLTQAITDTVEQAGGGAAVPALRKDRPDAVAF
 AALGQLHCHGTPSPWNVLQCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTHAMHPLLDT
 ATELAENRGWVFTGRISPRTPQWLNEHAVESAVLFPGTGFVELALHVADRAYSSVNE
 VHTPLLLAGHDTADLQITVTDTDDMGRQSLNIHSHPHIGHDNTTGDEQPEWLHASAVL
 TAQTDHNHLPLTPWPVPPGTAAIEVDDFYDDLAQGQYNGPTFQGVQRIWRDHTPDV
 IYAEVLPEDTDIDGYGIHPALFDAALHPLLALTQOPPTNDTDDNTADTGDQVRLPYAFT
 GISLHATHATRLRVRLTRTGADAITVHTSDTTGAPVAIIDSЛИTREPLTTATGSAPATTAA
 GLLHLSWPPHPDTTDTDTDALRYQVIAEPTQQLPRYLHDLHTSTDHTSTTEADVV
 WPVPVPSNEELQAHQASDTAVSSRIHTLRTQTLTVQDWLTHPDTTGTRLVIVTRHGVST
 SAHDPVPDLAHAAVWGLIRSAQNEHPGRFTLLDTDDNTNSDTLTTALTLPTRENQLAIR
 DTIHIPRLTRTAVLTPPDGPWRLDTTGKGDILANLALLPTAHTALASQIRIDVRAAGLN
 FHDVVVALGLIPDDGFGGEAGVISEIGPDVYGFAVGDAVTGMTVSGAFAPSTVADHRMV
 MTIPARWSFPQAASIPVVFILTAYIALAEISGLSRGQRVLIHAGTGGVGMAAIQLAHHLG
 EVFATASAACKWSTLEALGVPRDHIASSRTLDFNSNAFLDATNGAGVDDVLNCLSGEFVEAS
 LALLPRGGHFEIGKTDIRDTEVIAATHPGVIYRALDLLSPDHIQRTLAQLSPLFATD
 TLKPLPTTNYSTIYQAIASLDRDMSQARHTGKIVLTAPVVVDPEGTVLITGGTGTGALFAE
 HLVSAGVRHLLLTSRRGPQAHGATDLQQLRDLGAHVTITACDISPEALALVN
 QHRLTAVVHTAAVLADTPVTELTGQDQLQVLA
 PAKIDA
 AWQLHQLTYEHNLSAFIMFSSMA
 GMIGSPGQGNYAANTALDALADYRHLGLP
 ATSLAWGYWQTRGVTAH
 LTDV
 DLARMTR
 LGLMPIATSHGLALF
 DAALATGQPV
 SIPAPINTHTLARHARDN
 TLTP
 PILS
 SALIT
 PRRRA
 ASAATDLAARLNGLSPQQQQTLATLV
 AATATVLGHHT
 PESISP
 ATAFKDLG
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FIGURE 13

MslB protein

VIFGDAHQNCRGGRVLGDAVAVVGMSCRVPGASDPDALWALLRDGISVVDEIPSARWNLD
 GLVAHRLTDEQRSALRHGAFLDDVEGFDAAFGINPSEAGSMDPQQRIMLELTWAALEDA
 RIVPEHLSGSSSGVFTGAMSDDYTTAVTYRAAMTAHTFAGTHRSLIANRVSYTGLRGPS
 LVIDTGQSSSLVAVHVAMESLRREETSLAIAGGIHLNLSLAAALSAAHFGALSPDGRCYT
 FDARANGYVRGEGGGVVVLKRLNDALADGNHIYCVIRGSSVNNDGATQDLTAPGVGDQQRQ
 ALLQAYERAEIDPSEVQYVELHGTGTRLDPTEAHSLHSVFGTSTVPRSPLLVGSIKTNI
 GHLEGAAGILGLIKTALAVHHRQLPPSLNYTVPNPKIPLQLGLRVQTLSEWPDLKPL
 TAGVSSFSMGGTNAHLILQQPPTPDTQTTPNPTTGSDPAVGSDPAVGVLVWPLSARSAPG
 LSAQAARLYQHLSAHPDLDPIDVAHSLATTRSHPHRATITTSIEHHSENNHDTTDALAA
 LHALANGTHPLLSRGLLTPQGPQKTVFVFPQGSQYPMGADLYRQFPVFAHALDEVAA
 ALNPHLDVALLEVMSFSQQDTAMAQLDQTFYAQPALFALGTLHRLFTHAGIHPDYLGH
 SIGELTAAYAAGVLSLQDAATLVTSGRGLMQSCTPGGTMALQASEAEVQPLEGLDHAV
 SIAAINGATSIVLSDGDHDSLEQIGEHFITQDRRTTRLQVSHAFHSPHMDPILEQFRQIAA
 QLTSAPTL PILS NL TGQI ARHD QL ASPD YWT QQL RNT VRF HDT V A ALL GAGE QV FLELS
 PHPVLTQAITDTVQAGGGAAVPALRKDRPDAVAFAAALGQLHCHGISPWNVLYCQAR
 PLTLPTYAFQHQRWLLPTAGDFSGANTHAMHPLLDTATELAENRGWVFTGRISPRTQPW
 LNEHAVESAVLFPTNTGFVELALHVADRAYSSVNELVHTPLLAGHDTADLQITVTD
 DMGRQSLNIHSHPHIGHDNTTGDEQPEWLHASAVLTAQTDHNHLPLTPVWP
 PPGTA AIEVDDFYDDLAQGNYGPTFQGVQRIWRDHATPDVIAEVELPEDTDIDGYGIHPALF
 DAALHPLLALTQPPNTDNTADTGDQVRLPYAFTGISLHATHATRLRVRLRTGADA
 ITVHTSDTGAPVAAIDSLITRPLTTATGSAPATTAAGLLHLSWP
 PHPDTTDTDTDTDA
 LRYQVIAEPTQQLPRYLHDLHTSTD
 LHTSTTEADVVVWPV
 PVSNEELQAHQASDTAVSS
 RIHTLRTQTLTVQDWLTHPD
 TGTRLVIVTRHG
 VSTSAD
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FIGURE 14

51/112

ELRDHLQTATGLNLSSTLI FDHPTPHAVAELLEQIPGIGALVPAPVIAAGRTEEPVAV
 VGMACRFPGGVASADQLWDLVIAGRDVDGNFPADRGWDVEGLFDPPDAVGKTYTRYGAF
 LDDAAGFDAGFFGISPAREARMDPQQRLLEVCEALETAGIPAHTLAGTSTGVFVGAWA
 QSYGATNSDDAEGYAMTGGATVMSGRIAYTLGLEGPATVDTACSSLVAIHLACQSLR
 NNESQLALAGGVTVMSTPAVFTEFSRQRGLAPDGRCKAFAATADGTGWGEAAVLVLERL
 SEARRNNHPVLAIVAGSAINQDGASNGLTAPHGPSQQRVINQALANAGLTHDQDAVEAH
 GTGTLGDPIEASALHATYGHHTPDQPLWLGSIKSIGHTQAAAGAAGVVKMIAITHA
 TLPATLHVDQPSPHIDWSSGTVRLTEPIQWPNTDHPRTAAVSSFGISGTNAHLILQQPP
 TPNPTQTPEDCSPAQS PCATITDAGTGLSFVPWVISAKS AEA LSQAQS RLLTRL DDPVV
 DAIDLGWSLIATRSMFEHRAVVVGADRHLQRLAELASGNLGADVVVGRARAAGETVMV
 FPGQGSQRLGMGAQLYEQFPVFAAAFFDVVDALDQYLRPLRQVMWG DDEGLN STEFAQ
 PSLFAVEVALFALLRFWGVVDPYVIGHSGVGE LAAAQVAGVLSLQDAAKLVSARGRLMQL
 PAGGAMVAVAASQHEVEPLLVEGV DIAALNAPGSVVI SGDQAAVRLIANRLADRGYRAHE
 LAVSHAFHSSLMEPMLEEFARLASEIVVEQQPQIPLISNVTGQLANADYGSAGYWDHIRR
 PVRFADSVASLEAMGASC FIEVGPASGLGAAIEQSLKSAEPTVSVSALSTDKPESVAVLR
 AAARLSTSGIPVDWQSVFDGRSTQTVNLPTYAFQRQRFWLDANRIGQDPASQ PQAQNVE
 SRFWEAVEREDVDGLAD SIGVTASAMQTVLPALSSWRAERTQSELD SWRYQVTWLSSPA
 TPSSITLSGIWILLIVPSELAKTDPVIGCAAAL EAHGALVIIITIFEPDFNRSLMGASLKD
 IGS HISGVISFLGIHGSE FSDSGAVKTLNLVQAMGDVHLDVPLWCLTQGAVSISADDLIR
 CSSAALVWGLGRVVALEHPGSWGLVLPESPDAAWERL CALLAQPTDEDQFAIRPSGV
 FLRRLIHAPATTSKSSTA WAPRGTVLITGGT GALGAHVARWL A HKEYSVDLLTSRRGM
 AADGATELVDDLR TAGASVTVHACDVTDR TSVEAAIAGKSLDAF HLAGRHQPTLLTELE
 DESFSDELAPKVHGAQVLS DITSNLTLSAFVMFSSVAGI WGGKSQGAYAAANAF LDSLAE
 KRRTLGLPATSV A WGLWAGGGM GDRPSASGLN LIGLKSMSADLAVQALSDAIDRPQATLT
 VASV NWDRF YPTFALARPRPFLHEIT EVMAYRESMRSSA STATLLTS KLAGLTATEQRA
 VTRKLVLDQAA SVLG YASTESLDTHESF KDLGFD SLT AELRDH LQTA TGLNLSSTLIFD
 HPTPHAVAELLEQIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASADQLWDLV
 IAGRDVVG NF PADRGWDVEGLFDPPDAVGKTYTRYGAF LDDAAGFDAGFFGISPAREAR
 MDPQRLLECVWEALETAGIPAHTLAGTSTGVFVGAWAQS YGATNSDDAEGYAMTGGAI
 SVMGRIAYTLGLEGPATVDTACSSLVAIHLACOSLRNNESQLALTGGVTVMSTPAIF
 TEFSRQRGLAPDGRCKAFAATADGTGWGEAAVLVLERLSEARRNNHPVLAIVAGSAINQ
 DGASNGLTAPHGPSQQRVINQALANAGLTHDQDAVEAHGTGTLGDPIEASALHATYGH
 HHTPDQPLWLGSIKSIGHTQAAAGAAGVVKMIAITHATLPATLHVDQPSPHIDWSSGT
 VRLLTEPIQWPNTDHPRTAAVSSFGISGTNAHLILQQPPDPTTQTPNTTGSDPAVGSD
 PAVGVLVWPLSARSAPGLSAQAARLYQHLSAHPLD PIDVAHSLAT TRSHHPRATITTS
 IEHHSENNHDTTDALAALHALANNGTHPLLSRGLLT P QPGPKTVFVFPQOGSOYPMGAD
 LYRQFPVFAHALDADCAALQ PFTGSVLA VLHDEPEAPS LERDVVQPVLF SVMVSLAAL
 WRWAGITPAVIGHSQGEIAAHVAGALTLP EAAVVALRSRVLTDLAGAGAMASVLSPE
 EPLTQLLARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENIDARAIPVDYPSHSP
 YMEHIRHQFLDELPELTPRPS TIAMYSTVDGEPHDTAYDTTMADY WYRNIRNTVRFHD
 TVAALLGAGEQVFL ELSHPVLTQAITDTVEQAGGGGAAPV ALRKDRPDAV AFAA ALGQ
 HCHG ISPSWNVLYCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTHAMHPLLD TATELAE
 NRGWVFTGRIS PRTQPWLNE HAVESAVLFP GTGFVELALHVAD RAGYSSVNE LIVHPLL
 LAGHDTADLQITVTD TDDMGRQSLN IHSRPHIGHDNTTGDEQPEWVLHASAVLTAQTD
 HNHLPLTPVWPPPGTAAIEVDDFYDDLAAQGYNYGPTFQGVQRIWRDHATPDVIYAEVE
 LPEDTDIDGYGIHPALFDAA LHPLLALTQPPNTD DDTNTADTGDQVRLPYAFTGISLHA
 THATRLRVRLTRTGADAI TVHTSDTTGAPV AII D S LITRPLTTATGSAPATTAAGLLHLS
 WPPHPDTT DTD TDT DALRYQVIAEPTQQLPRYLHDLHTSTDLHTSTTEADVVVWPVVP
 SNEELQAHQASDTAVSSRIHTLRTQTLTVQDWLTHPD TGT RLVIVTRHG VSTSAHD PV
 PDLAHA AVWGLIRSAQNEH PGRFTL LD TDDNTNSD LTTA LTPTRENQLAIRRTD IHP
 RLTRHSSDGAL TAPV VDPEGT VLTGGT G T LGA FAEH L VSAH G VRH L L TSRRG P QAH
 GATD LQQR L TD LG A HVTITACDISDPEA L A VNSVPTQHRLT AVVHTA A VLAD T P VTEL
 TGDQDQVLAPKIDAAWQ L HQLTYEHNLSAFIMFSSMAGMIGSPGQGNYAAANTAL DALA
 DYRHRLGLPATSLAWGYWQTH TGLTAHLDV D L A MTR LGLM P IATSHGLA LF D A A L A T G
 QPVSI PAPINTHTLARHARDN T L A P I L S A L I T P R R R A A S A A T D L A A R L N G L S P Q Q Q Q Q T
 LATI VAAATATVLGHHTPESISPATAFKDLGIDS LTA L E R N T L H N T G L D L P P T L I F D H
 PTPHAVAELLEQIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASADQLWDLV

FIGURE 14(continued)

52/112

AGR D V V G N F P A D R G W D V E G L F D P D P A V G K T Y T R Y G A F L D D A A G F D A G F F G I S P R E A R A M
 D P Q Q R L L E V C W E A L E T A G I P A H T L A G T S T G V F A G A W A Q S Y G A T N S D D A E G Y A M T G G S T S
 V M S G R I A Y T L G L E G P A I T V D T A C S S L V A I H L A C Q S L R N N E S Q L A L A G G V T V M S T P A V F T
 E F S R Q R G L A P D G R C K A F A A T A D G T G F G E G A A V L V L E R L S E A R R N N H P V L A I V A G S A I N Q D
 G A S N G L T A P H G P S Q Q R V I N Q A L A N A G L T H D Q V D A V E A H G T G T L G D P I E A S A L H A T Y G H H
 H T P D Q P L W L G S I K S N I G H T Q A A A G A A G V V K M I Q A I T H A T L P A T L H V D Q P S P H I D W S S G T V
 R L L T E P I Q W P N T D H P R T A A V S S F G I S G T N A H L I L Q Q P P T P D T T Q T P N P T T G S D P A V G S D P
 A V G V I V W P L S A R S A P G L S A Q A A R L Y Q H L S A H P D L D P I D V A H S L A T T R S H H P H R A T I T T S I
 E H H S E N N H D T T D A L A A L H A L A N N G T H P L L S R G L L T P Q G P G K T V F V F P G Q G S Q Y P G M G A D L
 Y R Q F P V F A H A L D E V A A A L N P H L D V A L L E V M F S Q Q D T A M A Q L L D Q T F Y A Q P A L F A L G T A L H
 R L F T H A G I H P D Y L L G H S I G E L T A A Y A A G V L S I L Q D A T L V T S R G R L M Q S C T P G G T M L A L Q A
 S E A E V Q P L L E G L D H A V S I A A I N G A T S I V L S G D H D S L E Q I G E H F I T Q D R R T T R L Q V S H A F H
 S P H M D P I L E Q F R Q I A A Q L T F S A P T L P I L S N L T G Q I A R H D Q L A S P D Y W T Q Q L R N T V R F H D T
 V A A L L G A G E Q V F L E L S P H P V L T Q A I T D T V E Q A G G G G A A V P A L R K D R P D A V A F A A A L G Q L H
 C H G I S P S W N V L Y C Q A R P L T L P T Y A F Q H Q R Y W L L P T A G D F S G A N T H A M H P L L D T A T E L A E N
 R G W V F T G R I S P R T Q P W L N E H A V E S A V L F P G T G F V E L A L H V A D R A G Y S S V N E L I V H P L L L
 A G H D T A D L Q I T V T D T D D M G R Q S L N I H S R P H I G H D N T T G D E Q P E W V L H A S A V L T A Q T T D H
 N H L P L T P V P W P P P G T A A I E V D D F Y D D L A A Q G Y N Y G P T F Q G V Q R I W R D H A T P D V I Y A E V E L
 P E D T D I D G Y G I H P A L F D A A L H P L L A L T Q P P T N D T D D T N T A D T G D Q V R L P Y A F T G I S L H A T
 H A T R L R V R L T R T G A D A I T V H T S D T G A P V A I I D S L I T R P L T T A T G S A P A T T A A G L L H L S W
 P P H P D T T D T D T D A L R Y Q V I A E P T Q Q L P R Y L H D L H T S D L H T S T E A D V V V W P V P V P S
 N E E L Q A H Q A S D T A V S S R I H T L T R Q T L T V V Q D W L T H P D T T G T R L V I V T R H G V S T S A H D P V P
 D L A H A A V W G L I R S A Q N E H P G R F T L L D T D D N T N S D T L T T A L T L P T R E N Q L A I R R D T I H I P R
 L T R H S S D G A L T A P V V V D P E G T V L I T G G T G T L G A F A E H L V S A H G V R H L L L T S R R G P Q A H G
 A T D L Q Q R L T D L G A H V T I T A C D I S D P E A L A A L V N S V P T Q H R L T A V V H T A A V L A D T P V T E L T
 G D Q D Q V L A P K I D A A W Q L H Q L T Y E H N L S A F I M F S S M A G M I G S P G Q G N Y A A A N T A L D A L A D
 Y R H R L G L P A T S L A W G Y W Q T H G L T A H L T D V D L A R M T R L G L M P I A T S H G L A L F D A A L A T G Q
 P V S I P A P I N T H T L A R H A R D N T L A P I L S A L I T T P R R R A A S A A T D L A A R L N G L S P Q Q Q Q O T L
 A T L V A A A T A T V L G H H T P E S I S P A T A F K D L G I D S L T A L E L R N T L T H N T G L D L P P T L I F D H P
 T P H A V A E H L L E Q I P G I G A L V P A P V V I A A G R T E E P V A V V G M A C R F P G G V A S A D Q L W D L V I A
 G R D V V G N F P A D R G W D V E G L F D P D P A V G K T Y T R Y G A F L D D A A G F D A G F F G I S P R E A R A M D
 P Q Q R L L E V C W E A L E T A G I P A H T L A G T S T G V F A G A W A Q S Y G A T N S D D A E G Y A M T G G A T S V
 M S G R I A Y T L G L E G P A I T V D T A C S S L V A I H L A C Q S L R N N E S Q L A L A G G V T V M S T P A V F T E
 F S R Q R G L A P D G R C K A F A A T A D G T G F G E G A A V L V L E R L S E A R R N N H P V L A I V A G S A I N Q D G
 A S N G L T A P H G P S Q Q R V I N Q A L A N A G L T H D Q V D A V E A H G T G T L G D P I E A S A L H A T Y G H H H
 T P D Q P L W L G S I K S N I G H T Q A A A G A A G V V K M I Q A I T H A T L P A T L H V D Q P S P H I D W S S G T V R
 L L T E P I Q W P N T D H P R T A A V S S F G I S G T N A H L I L Q Q P P T P D T T Q T P N T T G S D P A V G S D P A
 V G V I V W P L S A R S A P G L S A Q A A R L Y Q H L S A H P D L D P I D V A H S L A T T R S H H P H R A T I T T S I E
 H H S E N N H D T T D A L A A L H A L A N N G T H P L L S R G L L T P Q G P G K T V F V F P G Q G S Q Y P G M G A D L Y
 R Q F P V F A H A L D A C D A A L Q P F G W S V L A V L H D E P E A P S L E R V D V V Q P V L F S V M V S L A A L W R
 W A G I T P D A V I G H S Q G E I A A A H V A G A L T L P E A A V V A L R S R V L T D L A G A G A M A S V L S P E E P
 L T Q L L A R W D G K I T V A A V M G P A S A V V S G D T T A I T E L L I T C E H E N I D A R A I P V D Y P S H S P Y M
 E H I R H Q F L D E L P E L T P R P S T I A M Y S T V D G E P H D T A Y D T T M T A D Y W Y R N I R N T V R F H D T V
 A A L L G A G E Q V E F E L S P H P V L T Q A I T D T V E Q A G G G G A A V P A L R K D R P D A V A F A A A L G Q L H C
 H G I S P S W N V L Y C Q A R P L T L P T Y A F Q H Q R Y W L L P T A G D F S G A N T H A M H P L L D T A T E L A E N R
 G W V F T G R I S P R T Q P W L N E H A V E S A V L F P G T G F V E L A L H V A D R A G Y S S V N E L I V H P L L L A
 G H D T A D L Q I T V T D T D D M G R Q S L N I H S R P H I G H D N T T G D E Q P E W V L H A S A V L T A Q T D H N
 H L P L T P V P W P P P G T A A I E V D D F Y D D L A A Q G Y N Y G P T F Q G V Q R I W R D H A T P D V I Y A E V E L P
 E D T D I D G Y G I H P A L F D A A L H P L L A L T Q P P T N D T D D T N T A D T G D Q V R L P Y A F T G I S L H A T H
 A T R L R V R L T R T G A D A I T V H T S D T T G A P V A I I D S L I T R P L T T A T G S A P A T T A A G L L H L S W P
 P H P D T T D T D T D A L R Y R V I A E P T Q Q L P R Y L H D L H T S D L H T S T E A D V V V V W P V P V P S N
 E E L Q A H Q A S D T A V S S R I H T L T R Q T L T V V Q D W L T H P D T T G T R L V I V T R H G V S T S A H D P V D
 L A H A A V W G L I R S A Q N E H P G R F T L L D T D D N T N S D T L T T A L T L P T R E N Q L A I R R D T I H I P R L
 T R H S S D G A L T A P V V V D P E G T V L I T G G T G T L G A F A E H L V S A H G V R H L L L T S R R G P Q A H G A
 T D L Q Q R L T D L G A H V T I T A C D I S D P E A L A A L V N S V P T Q H R L T A V V H T A A V L A D T P V T E L T G
 D Q L D Q V L A P K I D A A W Q L H Q L T Y E H N L S A F I M F S S M A G M I G S P G Q G N Y A A A N T A L D A L A D Y
 R H R L G L P A T S L A W G Y W Q T H G L T A H L T D V D L A R M T R L G L M P I A T S H G L A L F D A A L A T G Q P

FIGURE 14(continued)

VSIPAPINTHTLARHARDNTLAPILSALITTPRRRAASAATDLAARLNGLSPQQQQQTLA
 TLVAAATATVLGHHTPESISPATAFKDLGIDSITALELRNLTHTNGLDLPPTLIFDHPT
 PHAVAEHLLEQIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASADQLWDLVIAG
 RDVGNFPADRGDVEGLFDPPDAVGKTYTRYGAFLDDAAGFDAGFFGISPREARAMDP
 QRLLLEVCEWEALETAGIAPAHTLAGTSTGVFAGAWAQSYGATNSDDAEGYAMGGATSV
 SGRIAYTLGLEGPAITVDTACSSLVIAHLACQSLRNNESQLALAGGVTVMSTPAVFTEF
 SRQRGLAPDGRCKAFAAATADGTGFGEGAAVLVLERLSEARRNNHPVLAIVAGSAINQDGA
 SNGLTAPHGPSQQRVINQALANAGLTHDQVDAVEAHGTTLGDPIEASALHATYGHHT
 PDQPLWLGSIKSNIGHTQAAAGAVVKMIAITHATLPATLHVDQSPSHIDWSSGTVRL
 LTEPIQWPNTDHPRTAAVSSFGISGTNAHLILQQPPTPDTTQTPNTTGSDPAVGSDPAV
 GVLWPLSARSAPGLSAQAARLYQHLSAHPDLDPIDVAHSLATTRSHHPRATITTSIEH
 HSENNHDTTDALAAHLHALANNGTHPLSRGLLTPQGPGKTVFVFPQGGSQYPGMGADLYR
 QFPVFAHALDACAALQPFTGWSVLAVLHDEPEAPSLERVDVQPVLF SVMVSLAALWRW
 AGITPDAVIGHSQGEIAAAHVAGALTPEAAAVVALRSRVLTDLAGAGAMASVLSPEEPL
 TOLLARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENIDARAI PVDYPSHSPYME
 HIRHQFLDELPETPRPSTIAMYSTVDGEPHDTAYDTTMADYWYRNIRNTVRFHDTVA
 ALLGAGEQVFLELSPHPVLTQAITDTVEQAGGGGAAVPALRKDRPDAVAFAAALGQLHCH
 GISPSWNVLYCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTHAMHPLLDTATELAENRG
 WVFTGRISPRTOPWLNEHAVESAVLFPGTGFVELALHVADRAYSSVNEIVHTPLLAG
 HDTADLQITVTDTDGMGRQSLNIHSRPHIGHDNTTGDEQPEWVLHASAVLTAQTTDHNH
 LPLTPWPWPPGTAAIEVDDFYDDLAQGQYNGPTFQGVQRIWRDHATPDVIYAEEVPLPE
 DTDIDGYGIHPALFDAAHLPLLALTQPPNTDDNTADTGDQVRLPYAFTGISLHATHA
 TRLRVRTRTGADAITVHTSDTTGAPVAIIDSLITRPLTTATGSAPATTAAGLLHLSWPP
 HPDTTDTDTDALRYQVIAEPTQQLPRYLHDLHTSTDHTSTTEADVVWVPVVPVPSNE
 ELQAHQASDTAVSSRIHTLRTQTLTVVQDWLTHPDTTGTRLVIVTRHGVSTSADHPVPL
 AHAAVWGLIRSAQNEHPGRFTLLDDNTNSDTLTTALTLPTRNQLAIRRDTIHPRLT
 RHSSDGALTAPEVWVDPEGTVLITGGTGTGLFAEHLVSAHGVRLLLTSRRGPQAHGAT
 DLQQLTDLGAHVTITACDISDPEALAALVNSVPTQHRLTAAVLAQDADTPVTELTGD
 QLDQVLAPKIDAAWQLHQLTYEHNLSAFIMFSSMAGMIGSPQGQNYAAANTALDALADYR
 HRLGLPATSLAWGYWQTHGLTAHTDVLARMTRLGLMPIATSHGLALFDAAQATGQPV
 SIPAPINTHTLARHARDNTLAPILSALITTPRRRAASAATDLAARLNGLSPQQQQQTLAT
 LVAATATVLGHHTPESISPATAFKDLGIDSITALELRNLTHTNGLDLPPTLIFDHPTP
 HAVAELLEQIPGIGALVPAPVIAAGRTEEPVAVVGMACRFPGGVASADQLWDLVIAGR
 DVVGNFPADRGDVEGLFDPPDAVGKTYTRYGAFLDDAAGFDAGFFGISPREARAMDPQ
 QRLLLEVCEWEALETAGIAPAHTLAGTSTGVFAGAWAQSYGATNSDDAEGYAMGGATSVMS
 GRIAYTLGLEGPAITVDTACSSLVIAHLACQSLRNNESQLALAGGVTVMSTPAVFTEFS
 RQRGLAPDGRCKAFAAATADGTGFGEGAAVLVLERLSEARRNNHPVLAIVAGSAINQDGA
 NGLTAPHGPSQQRVINQALANAGLTHDQVDAVEAHGTTLGDPIEASALHATYGHHTP
 DQPLWLGSIKSNIGHTQAAAGAVVKMIAITHATLPATLHVDQSPSHIDWSSGTVRL
 TEPIQWPNTDHPRTAAVSSFGISGTNAHLILQQPPTPDTTQTPNTTGSDPAVGSDPAV
 VLVWPLSARSAPGLSAQAARLYQHLSAHPDLDPIDVAHSLATTRSHHPRATITTSIEH
 SENNHDTTDALAAHLHALANNGTHPLSRGLLTPQGPGKTVFVFPQGGSQYPGMGADLYRQ
 FPVFAHALDEVAAAALNPHLDVALLEVMSQQDTAMAQLDQTFYAOPALFALGTALHRLF
 THAGIHPDYLLGHSIGELTAAYAAGVLSLQDAATLVTSGRQLMQSCTPGGTMLALQASEA
 EVQPLLEGLDHAVSIAAINGATSIVLSGDHDSLEQIGEHTQDRRTTRLQVSHAFHSPH
 MDPILEQFRQIAAQLTFSAPTLPILSNLTGQIARHDQLASPDYWTQQLRNTVRFHDTVA
 LLGAGEQVFLELSPHPVLTQAITDTVEQAGGGGAAVPALRKDRPDAVAFAAALGQLHCG
 ISPSWNVLYCQARPLTLPTYAFQHQRYWLLPTAGDFSGANTHAMHPLLDTATELAENRG
 VFTGRISPRTOPWLNEHAVESAVLFPGTGFVELALHVADRAYSSVNEIVHTPLLAGH
 DTADLQITVTDTDGMGRQSLNIHSRPHIGHDNTTGDEQPEWVLHASAVLTAQTTDHNH
 PLTPWPWPPGTAAIEVDDFYDDLAQGQYNGPTFQGVQRIWRDHATPDVIYAEEVPLPE
 TDIDGYGIHPALFDAAHLPLLALTQPPNTDDNTADTGDQVRLPYAFTGISLHATHAT
 RLRVRTRTGADAITVHTSDTTGAPVAIIDSLITRPLTTATGSAPATTAAGLLHLSWPPH
 PDTTDTDTDALRYQVIAEPTQQLPRYLHDLHTSTDHTSTTEADVVWVPVVPVPSNEE
 LQAHQASDTAVSSRIHTLRTQTLTVVQDWLTHPDTTGTRLVIVTRHGVSTSADHPVPLA
 HAAVWGLIRSAQNEHPGRFTLLDDNTNSDTLTTALTLPTRNQLAIRRDTIHPRLTR

FIGURE 14(continued)

54/112

HSSDGALTAPVVVDPEGTVLITGGTGLALFAEHLVSAHGVRLLLTSRRGPQAHGATD
 LQQLRTDLGAHVITACDISPEALAALVNSVPTQHRLTAVVHTAAVLADTPVTELTGDQ
 LDQVLAPKIDAQWLHQLTYEHNLSAFIMFSSMAGMIGSPQGNYAAANTALDALADYRH
 RLGLPATSLAWGYWQTHGLTAHLTDVDLARMTRGLMPIATSHGLALFDAALATGQPVS
 I PAPINTHTLARHARDNTLAPILSALITTPRRAASAATDLAARLNGLSPQQQQTLATL
 VAAATATVLGHHTPESISPATAFKDLGIDSITAELRNTLTHNTGLDPPTLIFDHPTPH
 ALTQHLHTRLTQSHTPGPIASLLSHAIDEKFRAAGADLLMAASNLNQSFSNMAELNQLP
 AVTDIADASPDGLLTLICISTSENEYARLAAANIHSLTFAEIAAPGFYDAQLPNSIETSA
 EALATAITGAYANTSIVLVAHSIVCELAQATMTRLQDADIDLVGLVLLDPLEGTNSTEDY
 VETVLTREIHINAPRVGVDGYLAALGRYLQFHEDRRIPETRHMTLHSDTKIDRAQTPM
 NLLQDEAALTALKIGNWMNDVGVALSVNLE*

FIGURE 14(continued)

Mup045 protein

VIWNIDYIISGTGRFIPSMRPIINDIQVDPVNDHTIVQSDYIISFTEADEPATVMTRAATE
 ALTTSELVSADGVLIYAAITIGDAHHFAPVCHVQRVLRAPDALAFELSAASNGGTQGIAV
 AANLMTADASVKAALVCTAYRHPIDIISRWSSGMVFGDAAAVALSRDGGMVRLISGYHG
 SLPELEVLRNRSNERLGFVLPDVGKYLTAIARMYQAVIAQVLEEAQTSIAEIDYFGL
 IIGIGIPSLTATILEPNGIPVNKTSGLLRQMGHVGACDPILLSNHLFEQNVLKRGDKVLL
 LGGGVGYRLTCIVAEIAMNPVGPGHSTS*

FIGURE 15

Mup053 protein

VRQRNLWIAAHGLLRGTARLAARLGDVQSRLVADPMVMANPAPFCDELRAIGPVVSSYGT
 HLVVSHAIACHELLRSEDFEVVSLGSNLPAPMRWLERTRDDTPHLLLPPSLLAVEPPNHT
 RYRKAVSSVFTPKAVALRDHVEETASALLDQLTDQASAVDIIARYCSQLPVAVICDILG
 VPSRDRNRVLKFGQLAGPCLDGGLTWRQHQVRQGLQGLHFITEHLEELSNPGDDLMS
 QMIHASENGSSETHLHATEVRMIGLVLGASFATTMDLLNGNGIQVLLDAPELRDALSQRPQ
 LWPNAVEEILRLEPPVQLAGRMARKDTEVAGTAIKRGQLVAIYLGAVNRDPSVFADPHRF
 DITTRANANRHLAFSGGRHFCLGAALARVEGEVGLRMLFERFPDVRAAGPGNRRDTRTLRG
 WSQLPVQLGAARSMAIR*

FIGURE 16

Mup038 protein

MIVWPEVVSTVVVDGVAMSALVAEPDQEPKAVILALHGGATNARYFDCPGHRLALSLLHT
 GAAAGFTVVALDRPGYGSAGDPDAMNRPHQRAALAYGALDRILAQRPRGAGVFIMGHSN
 GCELAMWMATETRGAELLGIELAGTGWHYQPEAREILTTATGEHRWVGLYDLWHPQRLY
 PPEVLAIAIISSSAPAYEEQMMADWTRRTFLELVPAPRVPHFSIAQHEKVVQRDSSALD
 EIAVLFSGAPRFLHEQPEAGHNISLGHGTDYHTVLSFVQQCLAERLANAQDVLAA
 E*

FIGURE 17

FIGURE 18

56/112

tgcgggcgcc ttactgtgtt ggaatcgaaa gaatgccgc cctggcatgc cgccgaccga 3960
 accgcactgc accccacgcg ctgtcacggc ctgcagagtc tagggcgatc agctcggtgt 4020
 catatcccta ctctgtccg gtcgcacca tcgcgtccca cttgggtgac tatgacccat 4080
 cgtgcggcca atgcccacagc gtctcgccca gcaaacccaa cccaccatg gaccccccggc 4140
 gtcgttcagg cgaacgcctg aagccgcctc cggcaccagg tgccggatca cgcgatgtcc 4200
 accgcgttcgt gcaccgttcc gcccagagca aaccaggcta tacaggcaaa aacggcgccg 4260
 tgcataatagg gtctgccaat gctctaaccg gaacagtca cctggccat caccgcacgt 4320
 caaacccgtcg gaccgacgcg attcaccgcg cgacacaata cctatataaa tacctgcccac 4380
 cgtacctgac tgcaagggtgt aactcatatc attaccactg cgaggcgacg cacttgaact 4440
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 cggccagcaa cccgttgcg tcccgccgt aaaggacat tggggcgc atccgcatacg 4560
 cggtagctgc cataattttc tctcgcccaac ggcgtgtcgc taccgcac acgctgcccc 4620
 aaacacttat gctgtctcg ttgcacacaa gacaatctgt agccgcatacg gctccaagcc 4680
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 caaacccgatc cccgacccctgg acgcgagtgc tcgcacgc acgcaatggca atacgcagca 4800
 cccgactaaca tgcgtatgcgt gacccacac caaacccat tgcgcgcgc ggtcgaatcg 4860
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FIGURE 18(continued)

tttgtgctgg ctaaatgggc tgatgcggcg gaaagtgcgc acaagtctgc ccagttgatc 7920
 gcccaccaccc tgagactgca ggagcccg ggatcacgt tcacgcggac cccgcctgat 7980
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 cgcgcgcgcac gtcgttgcgttgcgtt gtcgttgcgtt gtcgttgcgtt gtcgttgcgtt 11820

FIGURE 18(continued)

58/112

cgtgaacacc acagcgatgc cggccaggc gagcccattc gccagcaccc gcacccacca 11880
 tggcccacg acaagtcgt cccacaagcc cgagatcaac accgctgcct gctctcgta 11940
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FIGURE 18(continued)

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gccctcgctg	acaacaccac	ccgacaacac	gtcgctcata	aatcggtaat	cagctatccc	16140
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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

65/112

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FIGURE 18(continued)

FIGURE 18(continued)

agtccgtggc tgggtggcgat gggcatcaaa cccaggccggg tcatgcgggc tagatctaca 47520
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FIGURE 18(continued)

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ccttacccaa agccgggtcc atccggcgta g cggcgaagg ctttgacgcg tccatctggg 51720
gccaggccgc gttggggaa g aactccgtgaaa aaaaacccgaa g t g t g t c a t c a c g 51780
ccggggccca gtctactgtt g gatctcggtt t t c g t a a a g g a t t t g c a g g c 51840
gcccaccagcg atgacgaca g g c g g t g t c a a c g t a t c g t a c g c g 51900
gtttaggcga tacggccga c a t g a c g c t a g t c a g g c c g c 51960
g c g t c a t c g g a g t t g g t g c g c g c t t c c g c g a a t a c c c t c a 52020
gagggtccgg ccaaggatgtt c g c g g a a t c c c c g g t t c a a c c a c c a c 52080
tccacgaca g c g c g t g t g g g t c c a t c g t a a c g c g a c a c a c c a c 52140
a a c c c g g c a t c a a a a c c t g c a c a t c g t a c a a a c a c a t c a 52200
c c g a c c g c g t c c g g a t c g g g a t c a a a c a c a g t t c a a c c a c 52260
a a a t t a c c a c c a c a t c a c g g c a g c a t c a c a a g t t c c c a c 52320
a c a c c a c c g g a a a c a c g a c a c g c a t c a c a c a c c c c a c 52380
g c t c g c a t c a c a c c c g g a c c a c c c c a c c a c c c c a c 52440
t g c t c g c c a c a c c c g g a c c a c c c c a c c a c c c c a c 52500
c c g g t t g t t g g g t a g g t g c a g t g a a g a t g a a g a t g a a g 52560
t c t t t g a a c g c g t g t g c a g t g t g t g t g t g t g t g t g t g 52620
t g g g c c g c g g c a c a c a c a c a c a c a c a c a c a c a c a c 52680
t g g g g g g g t g t g t g t g t g t g t g t g t g t g t g t g t g t g t 52740
g c c g t g t g t g t g t g t g t g t g t g t g t g t g t g t g t g t g t 52800
c g g c a c c a c a c a c a c a c a c a c a c a c a c a c a c a c a c 52860
t c a g c g a a t c a t c a c a c a c a c a c a c a c a c a c a c a c 52920
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c c c a g g c c a g g t t g t g t g t g t g t g t g t g t g t g t g t g t 53040
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c c g g c c a t t g g t g t g t g t g t g t g t g t g t g t g t g t g t 53160
a g t c g c a t t g g t g t g t g t g t g t g t g t g t g t g t g t g t 53220
t g t g t g g g c a c a t c a c a c a c a c a c a c a c a c a c a c a c 53280
t g t g t g g g c a c a t c a c a c a c a c a c a c a c a c a c a c a c 53340
c a t g a g a c c a c a c a c a c a c a c a c a c a c a c a c a c a c 53400
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t g t c t g g c g a c a a g g c a c c a g c t c g a c a g c t c c c c g 53520
g g a t t c a c c a c a c a c a c a c a c a c a c a c a c a c a c a c 53580
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a c c g g t a c c c a c c a c a c a c a c a c a c a c a c a c a c a c 53940
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c g g g t g a t c a t g g t g t g t g t g t g t g t g t g t g t g t g t 54180
a t g a g t c g a t g a t g a t g a t g a t g a t g a t g a t g a t g a t 54240
t g t g t g g c a t c g g c c c g g t g t g t g t g t g t g t g t g t g t 54300
t g c a a a c t g a t c g c g t g t g t g t g t g t g t g t g t g t g t 54360
t t g g t g t c g t t g t g t g t g t g t g t g t g t g t g t g t g t g t 54420
c g c a g g c a t g a t g a t g a t g a t g a t g a t g a t g a t g a t 54480
a g a t g a c a t c g g t g t g t g t g t g t g t g t g t g t g t g t g t 54540
a a t g t c g g g t g t g t g t g t g t g t g t g t g t g t g t g t g t 54600
t a t c g c g g t g t g t g t g t g t g t g t g t g t g t g t g t g t g t 54660
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a g c a g t a c a g t g t g t g t g t g t g t g t g t g t g t g t g t g t 54900
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FIGURE 18(continued)

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acggctctgtca tggcactggc ggtgacacc 59580
cgctcgaccg cttcccaaaa acgggattca 59640
tcgcctgtac cgatacgggtt ggcgtcgagc 59700
cagaaccgtt ggcgtggaa ggcgttaggt 59760

FIGURE 18(continued)

FIGURE 18(continued)

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FIGURE 18(continued)

72/112

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FIGURE 18(continued)

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FIGURE 18(continued)

74/112

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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

79/112

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 ctgtgcagcc 100500
 ccacggcaca 100560

FIGURE 18(continued)

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FIGURE 18(continued)

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ccaaatgcgg gacagcgtga tcgaaactcg 105420
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ggcgggatcg ctttgcggc 105660
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agtcgcggc aaccggcgttgc 105900
caaacaaacg acactatcg cggaaacggac 105960
tgccgaccgc tagtccggcgt tggccagctg 106020
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caatcgatgg gcatcaaaac ggactggcgc 106200
cgcatggc gccgcgatataccgc 106260
ggcggttacc ggcgaccatcg ctccaccggc 106320
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ctctcttacc gaatgcgttgc 106440
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gccttcatcg tcaccccaaca 106560
atcaacaacg tcataaaacg cggccgcgaa 106620
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gcagttcccg ggggttggc 107040
gttgggttgcg ctgatcgca 107100
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gggtggcccg gccacgggg 108600
gaggccggca gggatcg 108660
cgacacagg atcgccggc 108720

FIGURE 18(continued)

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 ggttagatgc gccgtgagac cggtgtgagt ctgcacatgc ccccaggcca ggctggtcgc 108900
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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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gatctgttca	agcagatgt	cgccggccgc	gttgcgttgc	gttgcgttgc	gttgcgttgc	131940
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cgaatcgatt	ccgagggtt	tgaacgcgtt	gttgcgttgc	gttgcgttgc	gttgcgttgc	132060
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ggggctaa	ccgttgcgtt	ccgcggccac	gttgcgttgc	gttgcgttgc	gttgcgttgc	132180
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cagggtgtt	gtgttgc	gggcgggtat	gttgcgttgc	gttgcgttgc	gttgcgttgc	132300
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gttgcgttgc	tttgcgttgc	tttgcgttgc	gttgcgttgc	gttgcgttgc	gttgcgttgc	133140
gtcgccgtatc	aggccccaca	cttgcggcgt	gttgcgttgc	gttgcgttgc	gttgcgttgc	133200

FIGURE 18(continued)

FIGURE 18(continued)

89/112

attgggtact atcacgttaa taaaaatatg tagtagcga gttggctgta gtgctggatc 137340
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FIGURE 18(continued)

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FIGURE 18(continued)

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FIGURE 18(continued)

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 gtctgtacg gcctcaaaagg actgcggac tcggtgagcg 150180
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 cacaccgcg 150300
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 agggcgcgtg 150540
 gtcacccgt tagatgcctt ctcgcggac 150600
 ttgaacgcct tcgcgtatc 150660
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 gatccagtcg ggatcggtg 150840
 gcgatctggg 150900
 ggcttggcg 150960
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 gtcggcccaag 151140
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 gttggcggtt 151260
 aacccggcg 151320
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 tttgagccgc 151740
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 gcccacgc 152160
 cggtagaa 152220
 ccccgccgtg 152280
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 caggagtag 152460
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 tctaccatcg 152760
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 ggggcgtcg 153060
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 gtataccgcg 153180
 aatggcatca 153240
 cttgggttgc 153300
 accccgggtg 153360
 atgcccattcg 153420
 gggcccggtt 153480
 gcaagactcg 153540
 gcccgttctg 153600
 ggcttgcg 153660

FIGURE 18(continued)

ggtgatccgg caggcttcgg cgatgttgc ggcgcgttgc aggcgtgtca gattgatcgc 153720
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FIGURE 18(continued)

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FIGURE 18(continued)

FIGURE 18(continued)

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 Ctgctggcc tcatcttccg aaagcccg ggtgtcgccg tcagcgatgt ccaggatcgc 168600
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 ccggccactcg cggccatacc acggccatc ggcggccatca acatccggccg cattcccgccg 169860
 gatccggccaa cccggccggc gacccgttgc cggccggccatc cggccaccatg caaccgcggc 169920
 gacccgttgc cggccatcccgcc accccatcccc cggccggccg gatcccgccg ggcgcacgtc 169980

FIGURE 18(continued)

97/112

accgacacca cctgcgcgg caggctcggt aagccgcggc ccaccgcgc tgccagcacc 170040
 aaaaccaccc aacgcgcggc cgagtccgc cgagtcgata tcgacgcctc cggcgccagt 170100
 caatcccgt gccaaccccg tcatccctt cgtggctct tgagccaacc cttgcagctg 170160
 ctgaccaagt tttgtggga tttggccggc catggcaca cccgcgcggc gtgctccgg 170220
 cagcatcgct ggcacccgctt aggccatacc aggttagagaa cccgcgcggc cggctcccg 170280
 cggtcagcgc gccaactcac catcgaccc caactcgctg aggtcgctgc tgcagcgtc 170340
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 ctcgctctga gttgtcgcc cccgctcggt cgtatcccc tgcgcgcac caggttcaac 170460
 aatggcgaa actggcgcc gggcccaaga aggtggcc ggaatctcac tcgtgtggta 170520
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 ttgatctgtt ctgttccgcg tgaatctggg tgcgtatcgatc tgcgtatcg 173400
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 catggccggat tttttttccat gatttcgtatcgatc gggccgttgcgat cttccgtatcgatc 174000
 cggccaggcgatc cttccgtatcgatc gttatcgatc gttatcgatc 174060
 gcaaggccaaac cttccgtatcgatc gttatcgatc gttatcgatc 174120
 cttccgtatcgatc gttatcgatc gttatcgatc gttatcgatc 174155

FIGURE 18(continued)

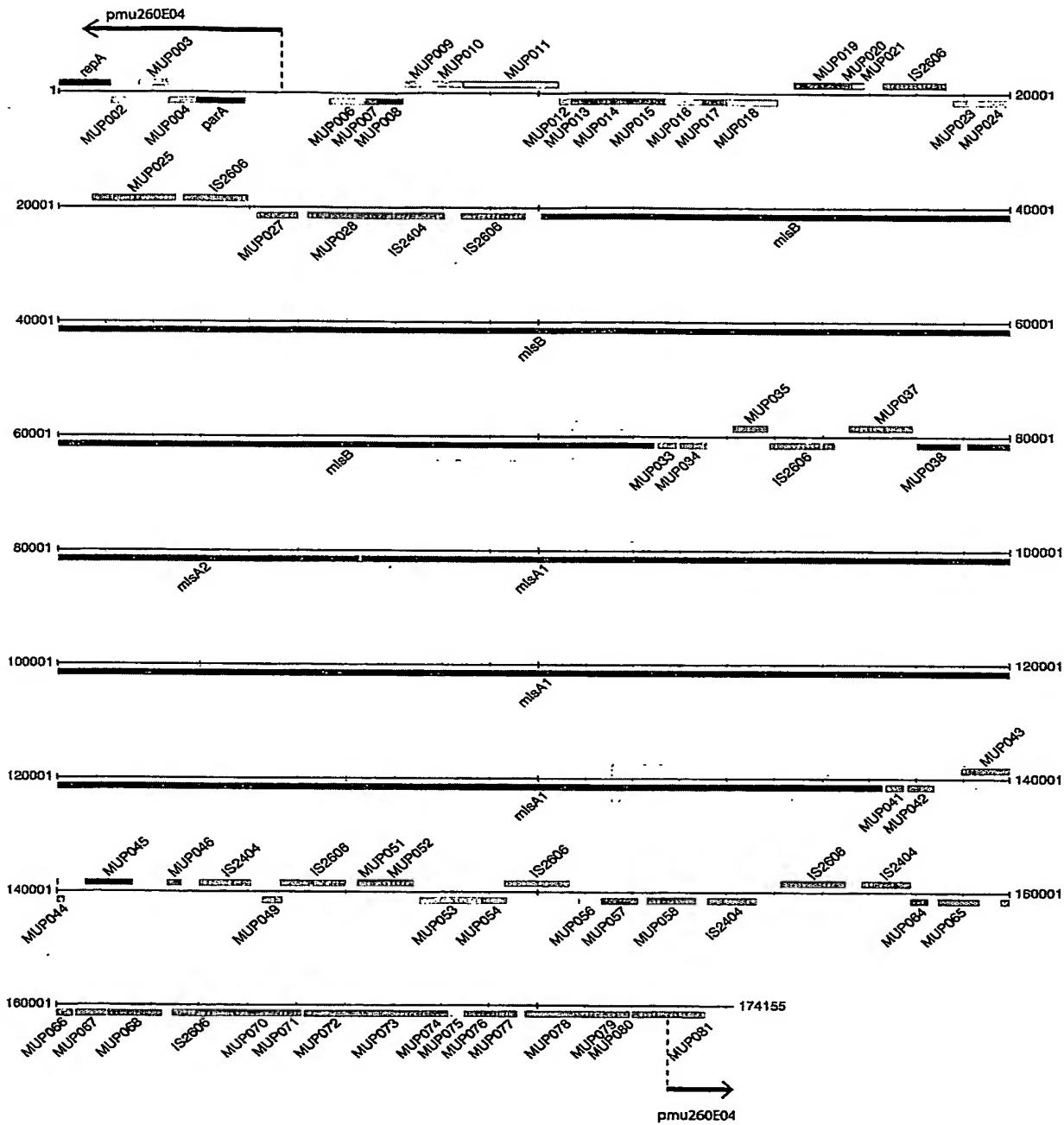


FIGURE 19

MUP081

CCCAGCCAGTCAT gtcgcga [REDACTED] ggctcaggcgctaccaacaccgc 173592
 cacattctccaagccactccgagacaccgcttgcgtctacaggccgggtgacttttagttgt 173652
 cttctcgacacgcccacatacgcggtagtaccgcgagagtggtaacacttgct 173712
 [REDACTED] accaccagaagaaggcgatgcccacgagctgacgcagaacaat 173772
 tcaatagcactcaacaaccgggttagatcacccatctgaagcgacaaaagccccccaaa 173832
 ggcggggctgtctcagttcaaccgagtaggcgctcggtctgggtcttcacccgt 173892
 a [REDACTED] 173952
 [REDACTED] cgccgcgcgccttgtgcgcaaaccgtgaccaaaaaggcgccaggcgaccg 174012
 ttgcgcgcaccgtttgtccagcgctgcgcggacgtaccgcggctgcagcccaaccgt 174072
 ggcggccgcgcgtcatacgcaccaccccaaggctgaggttctggcatttcgcgtgg 174132
 ctgcgccttcggccaagat ATGCCAGCACCAGACGTGTTTGTGGCGCTGGAACTCCG 37

repA

FIGURE 20

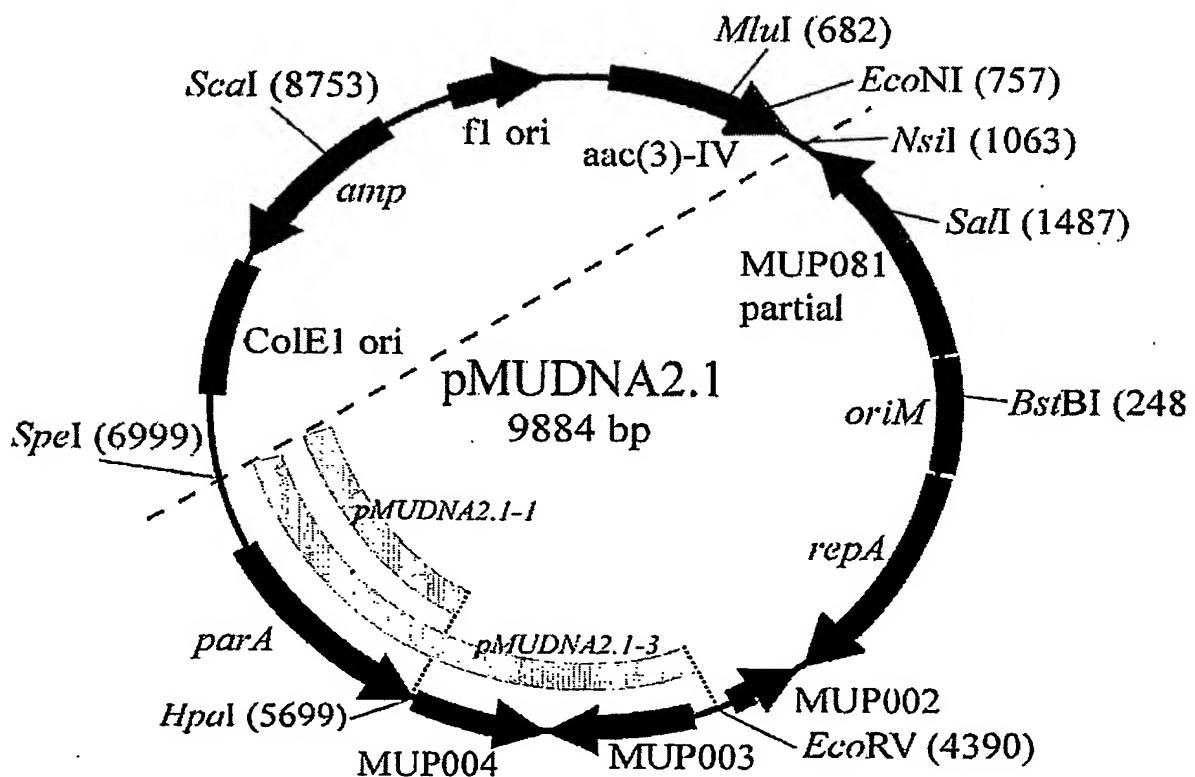


FIGURE 21

100/112

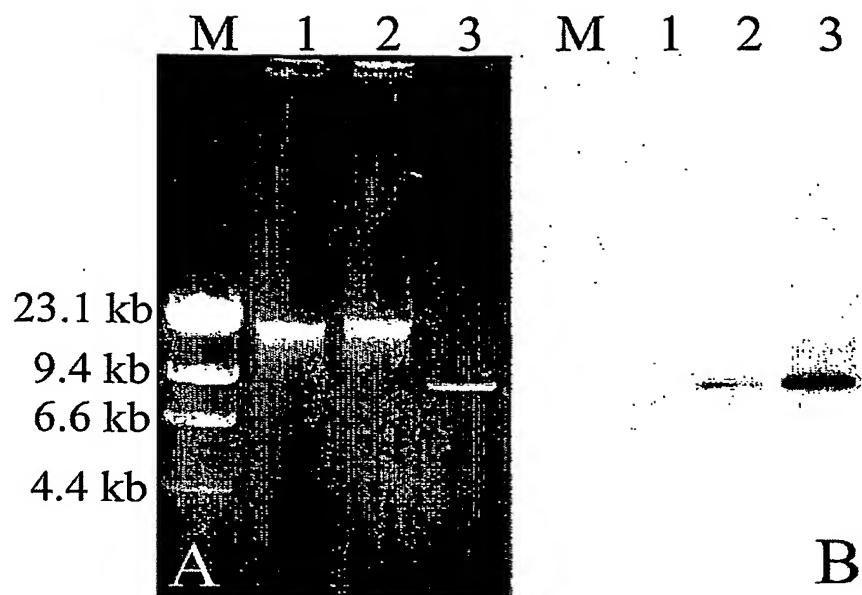


FIGURE 22A

FIGURE 22B

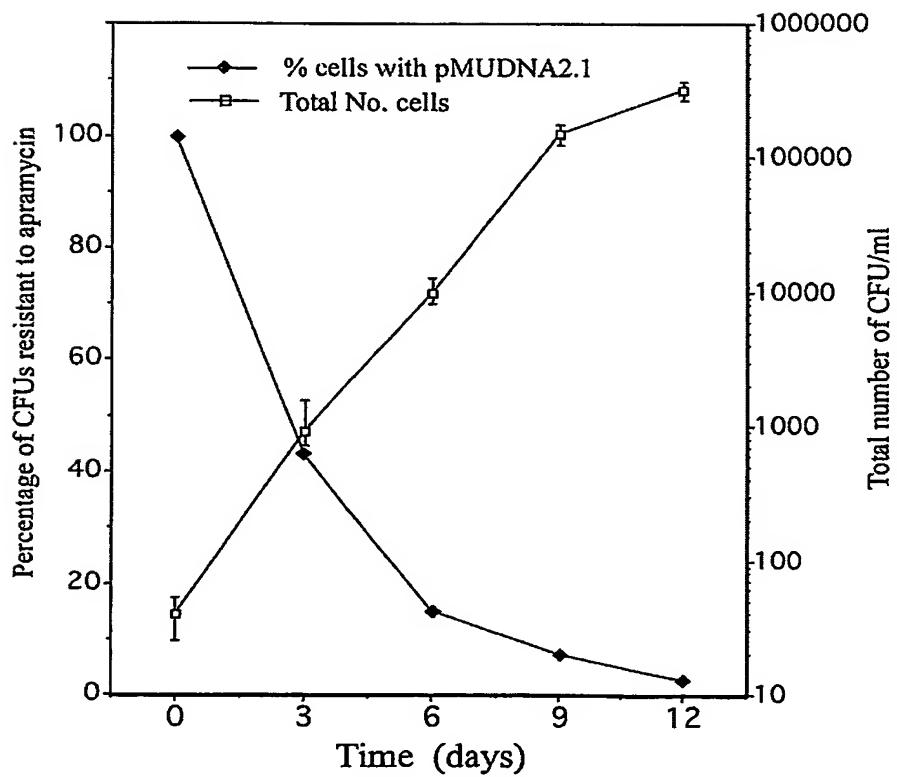


FIGURE 23

AGCGCAGGGCGGGTCCCCAGGCAGGGC...GCCCTGGGTGCCCAAGGTATGGCT [SEQ ID NO.:59] 10 bp
 CGGCGCGGGTTGCTGCGGGCGGCAGGGC...GCCCTGCGCGGGCGCAAGTCGG [SEQ ID NO.:60] 10 bp
 AACACCGCATTCCCCGGTCACCCAGGGC...GCCCTGCGCGGTACCCGCCGCCG [SEQ ID NO.:61] 10 bp
 GGCAACGGATCTAGCCGGGTGCAGGGC...GCCCTGAGCCGGGTGCAGTCGG [SEQ ID NO.:62] 10 bp
 CGAGGCCATCGCCATCGCCGCCGAGGGC...GCCCTGCATCGCCGCCGAACCT [SEQ ID NO.:63] 10 bp
 ACGATGCCGGAGAATCTCAGCGCAGGGC...GCCCTGAATCTCAGCGCCGGGG [SEQ ID NO.:64] 10 bp

FIGURE 24

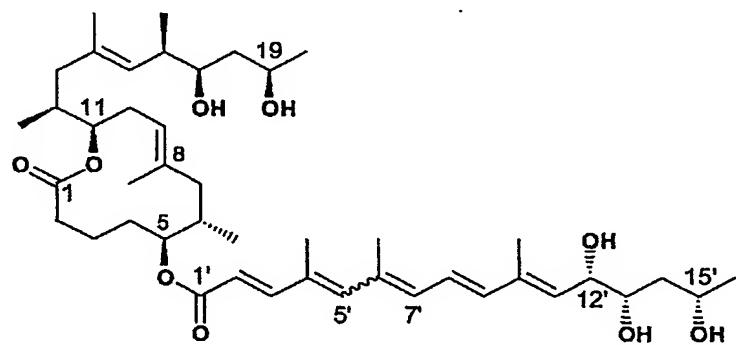
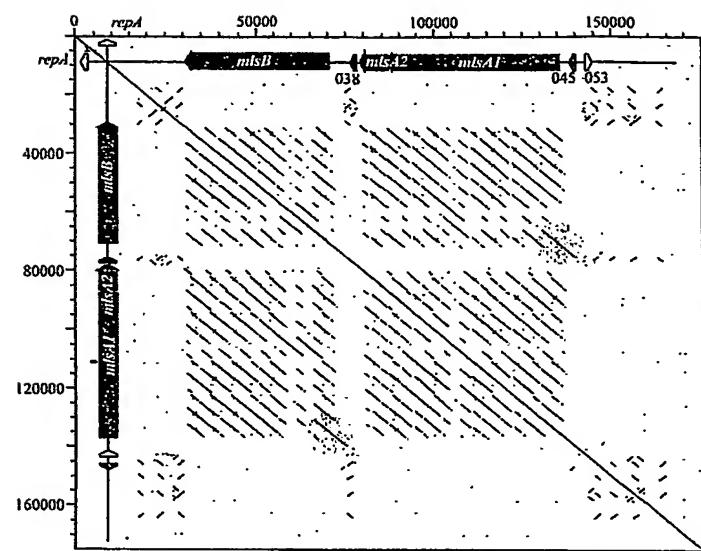


FIGURE 25

**FIGURE 26**

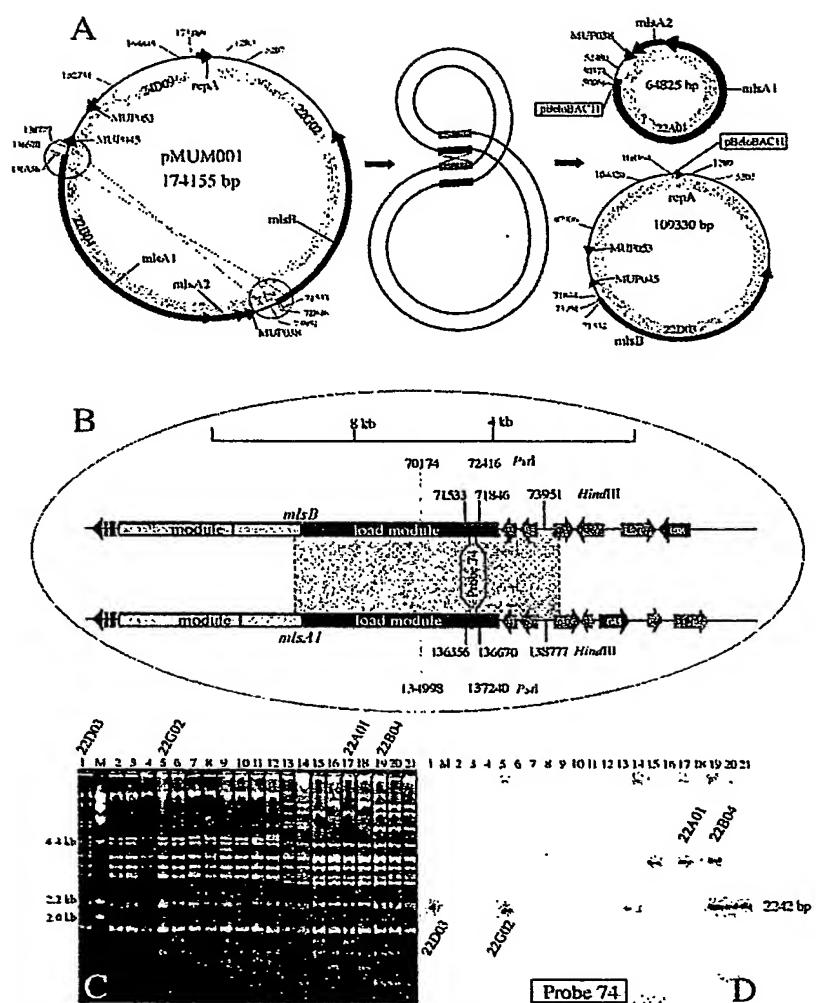


FIGURE 27A - FIGURE 27B - FIGURE 27C - FIGURE 27D

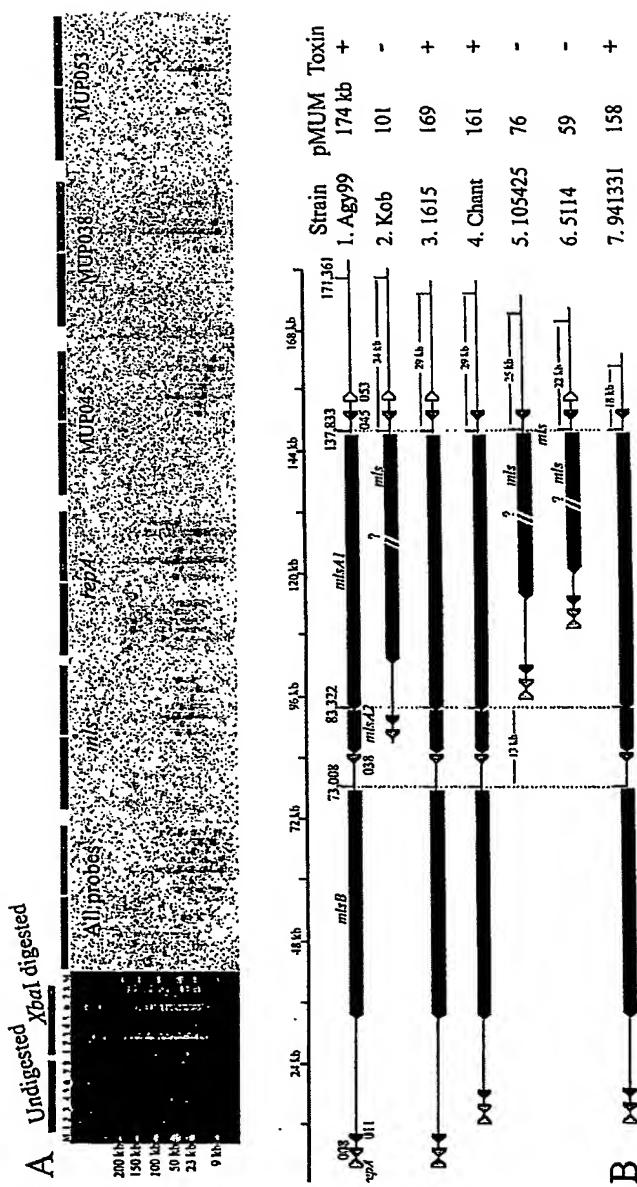


FIGURE 28A

FIGURE 28B

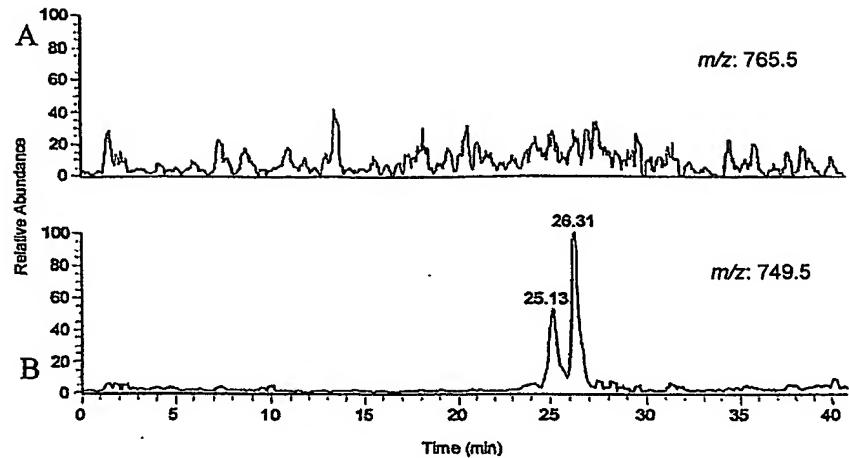


FIGURE 29A - FIGURE 29B

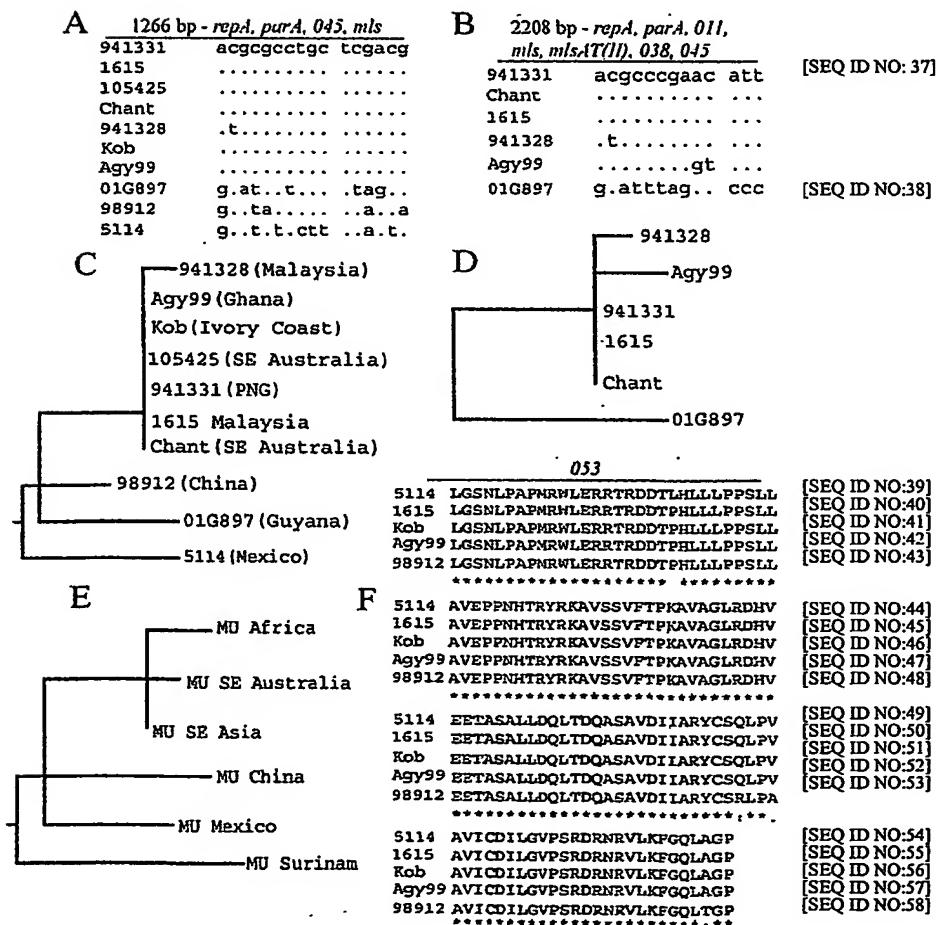


FIGURE 30A - FIGURE 30B - FIGURE 30C - FIGURE 30D - FIGURE 30E - FIGURE 30F

106/112

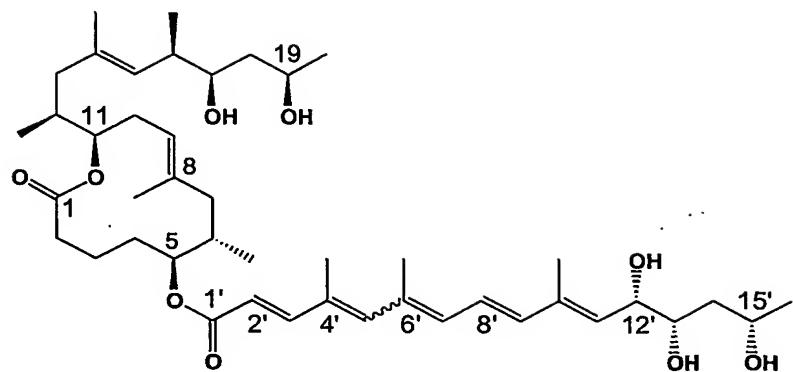


FIGURE 31A

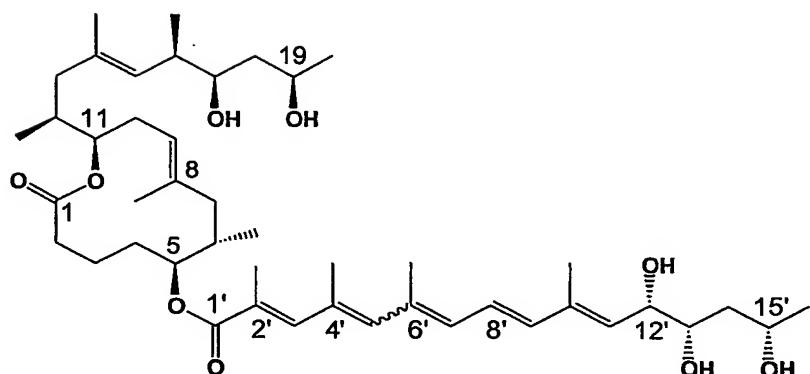


FIGURE 31B

107/112

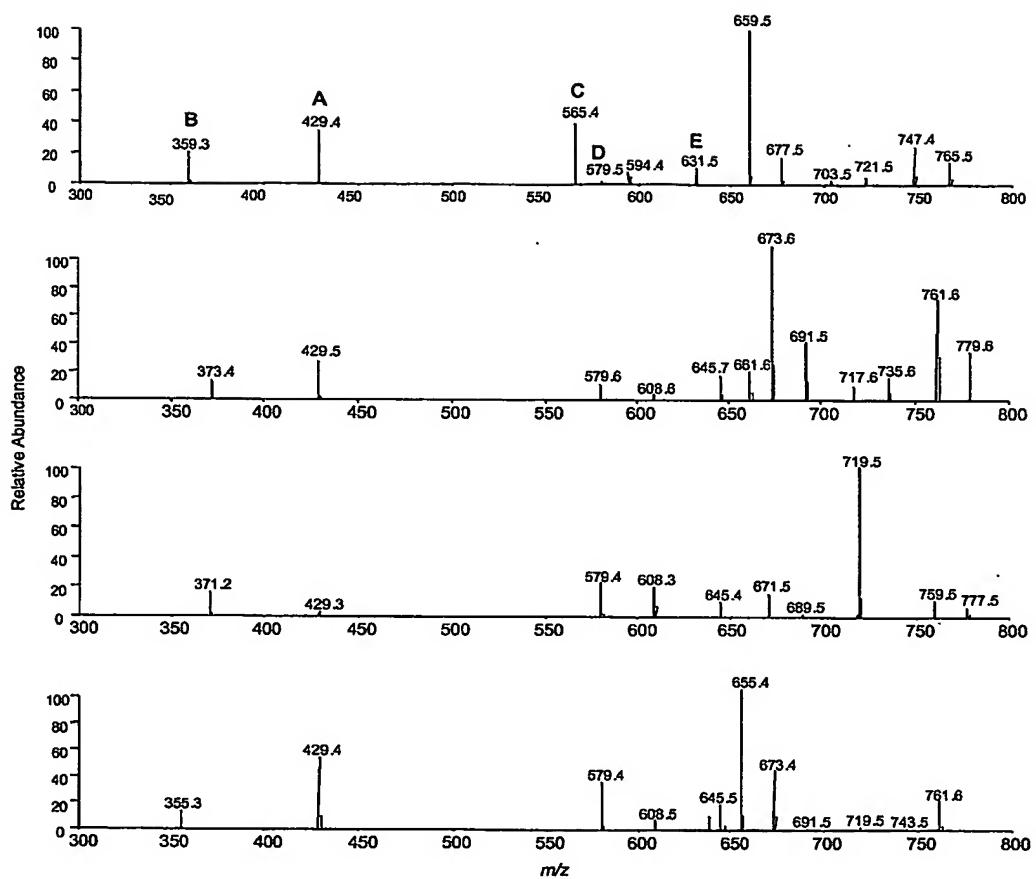


FIGURE 32

108/112

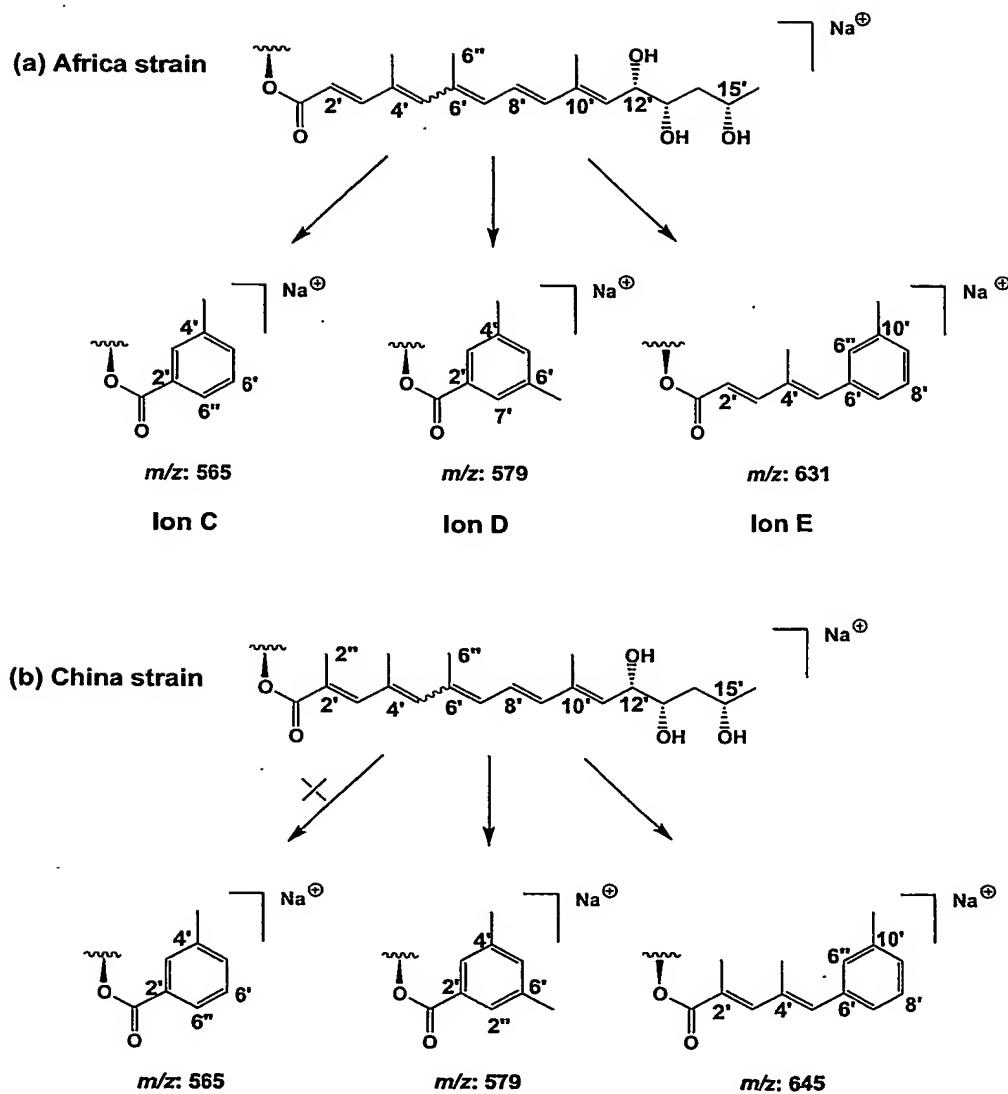


FIGURE 33

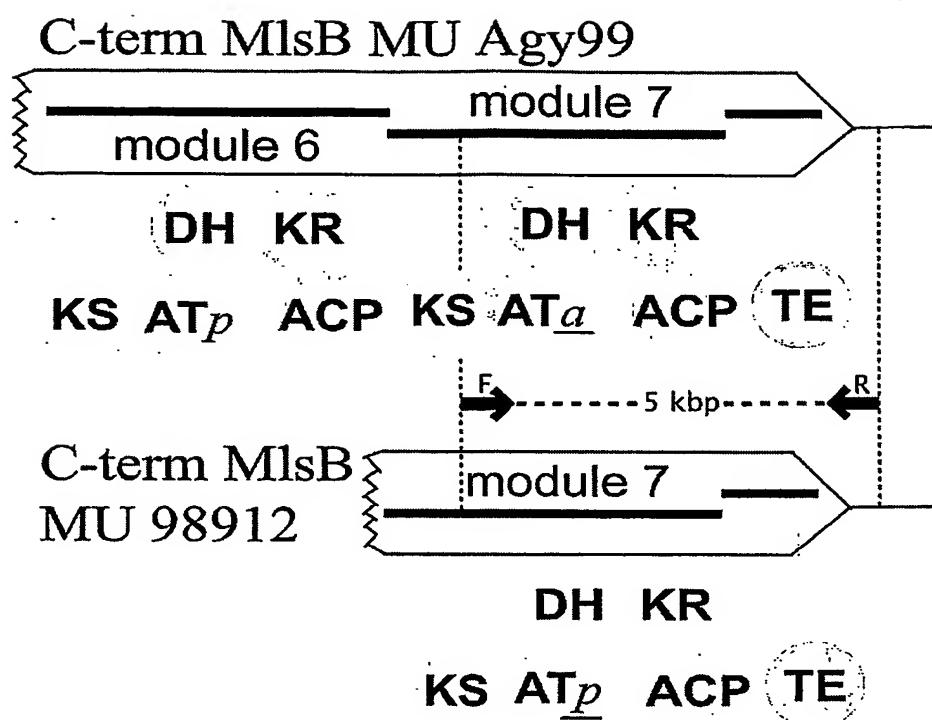


FIGURE 34

Agy99 - AT6	PHRATITTSIEHHSENNDTTDALAALHALANNGTHPLLSRGLLTPQGPCKTVFVFPGQC
98912 - AT7	PHRATITTSIEHHSENNDTTDALAALHALANNGTHPLLSRGLLTPQGPCKTVFVFPGQC
Agy99 - AT7	PHRATITTSIEHHSENNDTTDALAALHALANNGTHPLLSRGLLTPQGPCKTVFVFPGQC

Agy99 - AT6	SQYPMGMGADLYRQFPVFAHALDACDAALQPPTGWSVLAVLHDE -- PEAPSLERVDVVQF
98912 - AT7	SQYPMGMGADLYRQFPVFAHALDACDAALQPFTGWSVLAVLHDE -- PEAPSLERVDVVQF
Agy99 - AT7	SQYPMGMGADLYRQFPVFAHALDEAAALNPHLDVALLEVMFSQODTAMAQLLDQTFYAOF

Agy99 - AT6	VLF SVM VSLAALWRWAGITPD A VIGH S QGE IAAAH VAG ALTLPEAAAVV A I RSRV LTD L A
98912 - AT7	VLF SVM VSLAALWRWAGITPD A VIGH S QGE IAAAH VAG ALTLPEAAAVV A I RSRV LTD L A
Agy99 - AT7	ALF ALGT ALHRL FTHAGIHPDYLIGH SIGELTAAYAAGVLSLODAATLVT S RGR LMQS C I

Agy99 - AT6	GAGAMASVLSPEEPLTQLLARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENIDA
98912 - AT7	GAGAMASVLSPEEPLTQLLARWDGKITVAAVNGPASAVVSGDTTAITELLITCEHENIDA
Agy99 - AT7	PGGTM LALQASEAEVQPLLEG LD HAVSIAINGAT SIVL SGD HDS L E QIGEHF IT QDR RT

Agy99 - AT6	RAIPVLYPSHS PYMEH IRHQFL DELPE L P R P S T I A M Y S T V D G E P H D T A Y D T T M A D Y W
98912 - AT7	RAIPVLYPSHS PYMEH IRHQFL DELPE L P R P S T I A M Y S T V D G E P H D T A Y D T T M A D Y W
Agy99 - AT7	TRLQVSHAFHSPHMDPILEQFRQIAAQLTFSAPTLPTLSNLTG -- QIARHDQLASPDY W

Agy99 - AT6	YRNIRNTVRFHDTVAALLGAGEQVFLELS PHPVLTQAITDTVEQAGGGGAAVPALRKDRP
98912 - AT7	YRNIRNTVRFHDTVAALLGAGEQVFLELS PHPVLTQAITDTVEQAGGGGAAVPALRKDRP
Agy99 - AT7	TQQLRNTVRFHDTVAALLGAGEQVFLELS PHPVLTQAITDTVEQAGGGGAAVPALRKDRP

Agy99 - AT6	DAVAFAAALGQLHCHGISPSWNVLYCQARPLTLPTYAFQHQRWLLPTAGDFSGANTHAM
98912 - AT7	DAVAFAAALGQLHCHGISPSWNVLYCQARPLTLPTYAFQHQRWLLPTAGDFSGANTHAM
Agy99 - AT7	DAVAFAAALGQLHCHGISPSWNVLYCQARPLTLPTYAFQHQRWLLPTAGDFSGANTHAM

FIGURE 35

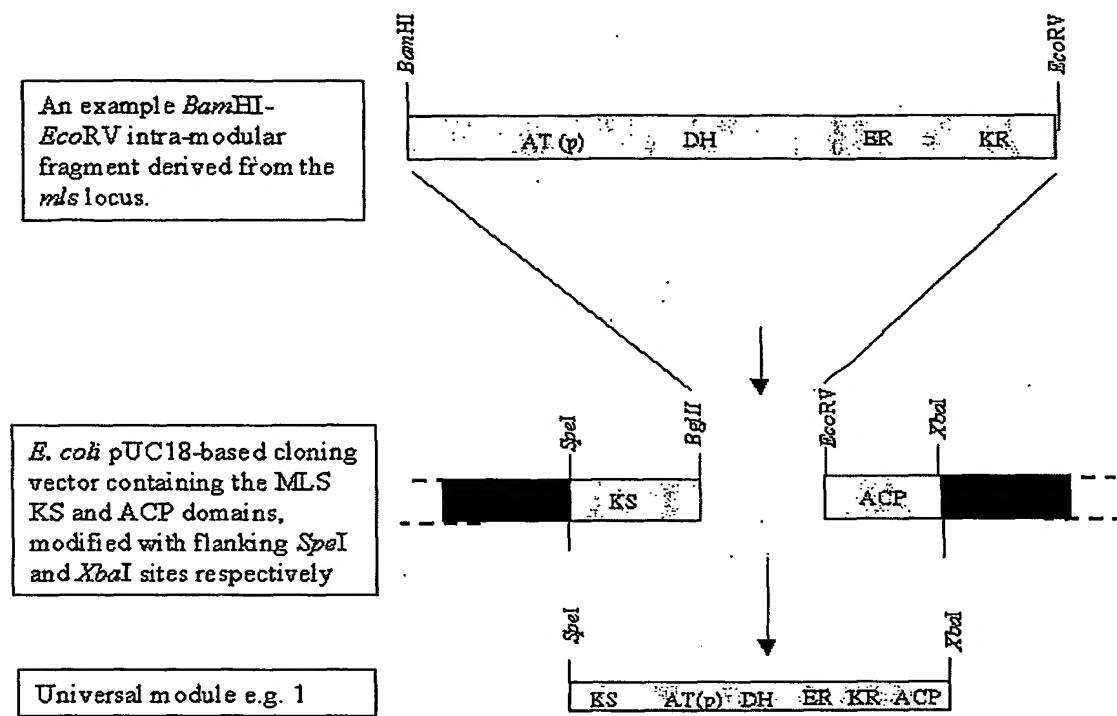


FIGURE 36

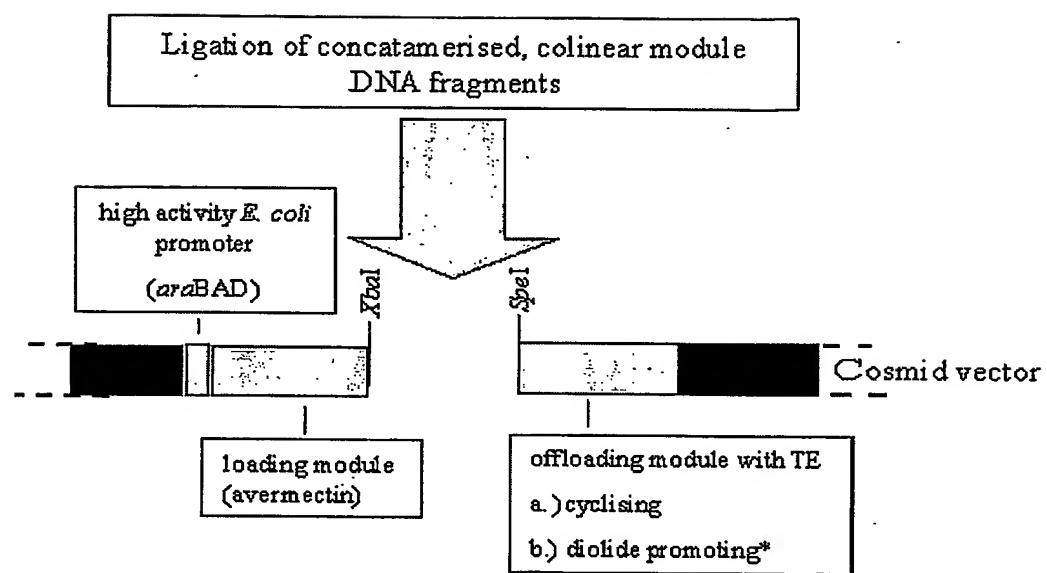


FIGURE 37

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